

2008 Tactical Wheeled Vehicles Conference (TWV)

Monterey, California
3- 5 February 2008

Agenda

### Monday, 4 February 2008

### Session 1

TWV: During and Post OIF by Mr. Anthony Melita

Tactical Wheeled Vehicles Conference by GEN Benjamin S. Griffin

Briefing

Video

Army Wheeled Vehicle Fleet From the G-4 Foxhole by MG Vincent Boles

The 21st Century Army Reserve by LTG Jack Stultz

### Session 2

The Army -Transforming while at War by LTG Stephen Speakes

Depot Panel

Part 1

Part II

by Ms. Janet Bean, Col. Douglas Evans, Col. Scott Kidd, and Dr. John R. Gray

Mitigating Future Uncertainties by Leveraging Strategic Partnerships by Col. Scott Dalke

Marine Corps Ground Combat Tactical Vehicle Strategy by Brigadier General Larry Nicholson

PEO Land Systems Marine Corps by Col. Bill Taylor

Joint Program Office Mine Resistant Ambush Protected Vehicles by Mr. Paul Mann

### Tuesday, 5 February 2008

### Session 3

Meeting the Challenges of Today and Tomorrow by BG James Chambers, BG John R. Bartley, and Col. John "Steve" Myers Briefing Video

The Army Truck Team

PM Heavy Tactical Vehicles by LTC Allen Johnson

PM Light Tactical Vehicles by LTC Sam Homsy

"Thanks You for Making Such a Great Workhorse" M1078A1 LMTV by LTC Alfred Grein



## CONFERENCE PROGRAM

MEET AND HEAR FROM KEY DOD, ARMY & MARINE CORPS LEADERS.

- Keynote Address:
   Mr. Anthony Melita,
   Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD(AT&L)/A&T/PSA/LW&M)
- United States Army Materiel Command (AMC):
   GEN Benjamin S. Griffin, USA Commanding General Army Materiel Command
- BGEN MICHAEL M. BROGAN, USMC COMMANDER MARCORSYSCOM
- Plus a presentation and overview of the MRAP Program by the Joint Program Manager

This year's conference will highlight the actions to implement the Army's recently announced Tactical Wheeled Vehicles Transformation Strategy.

# 2008 TACTICAL WHEELED VEHICLES CONFERENCE



NDIA 2008 Tactical Wheeled Vehicles Conference (TWV) Event #8530 February 3 - 5, 2008

> The Portola Plaza Hotel at Monterey Bay & Monterey Conference Center Monterey, California

Welcome to the 2008 Tactical Wheeled Vehicles Conference.

### Objective:

This annual seminar historically has brought the military service, industry, prime contractors, subcontractors and their suppliers together to discuss present and future wheeled vehicle requirements for all services. It has afforded an atmosphere for open discussions between the customers and the suppliers based on the needs of the military users. This is the only conference held specifically for the military's Tactical Wheeled Vehicle community.

The information presented is valuable to program managers, engineers, planners and marketers. In addition, open discussions will be invaluable to DoD planners and program managers. This year's theme is: "TWV: DURING AND POST-OIF."

### CONFERENCE DESCRIPTION

This year's Tactical Wheeled Vehicle (TWV) Conference will highlight the actions being taken to implement the Army's recently announced new TWV Transformation Strategy. The strategy was developed and resourced by an Army TWV Board of Directors made up of key Army leaders and decision makers in the Pentagon, the PEO CS/CSS and the Chief of Transportation. The intent of this strategy is to ensure the Army and the other services will have a balanced and viable TWV fleet through FY '18 and beyond. This Conference will address the procurement of new vehicles while conducting the cyclic refurbishment of existing vehicles. Other topics will include the status of the ongoing ACTD's intended to modernize the current fleet, and how the Army intends to provide for the spiral insertion of new technologies to support these efforts.

This is the only annual conference held that is specific to the military's Tactical Wheeled Vehicle community. It has historically brought Department of Defense representatives, prime contractors, subcontractors, and their suppliers together to discuss present and future wheeled vehicle requirements for all services. It has afforded an atmosphere for open discussions between the customers and the suppliers based on the needs of the military users. The information presented is valuable to program managers, engineers, planners and marketers. In addition, open discussions will be invaluable to DoD planners and program managers.

The agenda speakers, schedule and room assignments contained herein are subject to change.

There are no exhibits or displays at this conference -it is a conference only.

Cover graphic design by: Mark C. Barbes, PEO CS&CSS

## TACTICAL WHEELED VEHICLES DIVISION: Mission/Objective/Purpose

Division Objectives

The primary objective of the Tactical Wheeled Vehicle Division of NDIA is to enhance the security of the United States by promoting communications and interaction between defense industry, government and military in the area of automotive activities.

The specific charter of the Tactical Wheeled Vehicle Division is to conduct conferences in technology areas directly related to automotive research, design, development, test and production. Such conferences are intended to present advanced technology and provide for an exchange of information and an interchange of views between defense industry, government and military representatives. The effective cooperation between these three groups is vital to our defense effort in the tactical wheeled vehicle area. Each group brings unique inputs to such conferences. No one group can function at maximum effectiveness without the other two.

### Specific Objectives:

- To serve as an effective communications vehicle for the exchange of views and information between government and industry on matters of common concern.
- ▶ To foster mutual understanding and effective working relationships between government and industry in order to achieve a sound body of government policy and procedures which will serve both the security objectives of the United Sates as well as the commercial interests of its industry.
- ▶ To provide government with industry advice on government policies, practices and procedures and industry's needs and problems within the Division's purview.

### Mission Responsibility:

To promote national exchanges between the Defense Department, government agencies and industry, of information relating to the design, development, acquisition and support of vehicles and vehicle systems employed in land and amphibious military operations.

### 2008 Tactical Wheeled Vehicles Conference Committee:

Conference Chair:

Mr. Gary Tull,

Vice President, Government Operations,

AM General Corporation,

and Chairman, Tactical Wheeled Vehicle Division, NDIA

Session I Chairman:

Mr. Bruce Harrison,

Vice President, Product Support, BAE Systems,

and Vice Chairman, Tactical Wheeled Vehicle Division, NDIA

Session II Chairman:

Mr. Jack Reidy,

President & CEO,

Defense Products Marketing, Inc.

Session III Chairman:

Mr. Tom Bagwell (SES),

Deputy Program Executive Officer, Combat Support & Combat Service Support (DPEO CS&CSS), U.S. Army

### SUNDAY, FEBRUARY 3, 2008

7:30 A.M. - 1:00 P.M. 9TH ANNUAL NDIA TWV GOLF SCRAMBLE

CHECK-IN & CONTINENTAL BREAKFAST

BAYONET GOLF COURSE, SEASIDE, CALIFORNIA

GOLF CHAIR: CHUCK PRIKOPA

8:30 A.M. SHOTGUN START

2:00 P.M. - 7:00 P.M. REGISTRATION CHECK-IN

THE DEANZA BALLROOM FOYER

THE PORTOLA PLAZA HOTEL AT MONTEREY BAY

2:30 P.M. - 7:00 P.M. WELCOME RECEPTION AND SUPER BOWL PARTY

(FINAL WHISTLE) THE DEANZA BALLROOM I AND II





ANNUAL SUPER BOWL PARTY SUPER BOWL XLII SUNDAY FEB. 3, 2008



Super Bowl XLII - University of Phoenix Stadium Sunday Feb. 3, 2008 Glendale Stadium, AZ 2:30 p.m. - 6:30 p.m. (final whistle)\* The De Anza Ballroom The Portola Plaza Hotel Monterey

KICKOFF TIME 3:18 P.M. (PST) / (6:18 P.M. EST)

A spouse and/or guest of a registered attendee, may attend the Super Bowl Party at an additional cost of \$90.00.

Due to fire code regulations, space is limited. Based on the overwhelming response and attendance in previous years, there is a strong possibility that late on-site spouse/guest registrations will not be accepted.

The "Spouse/guest ticket" fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.

### MONDAY, FEBRUARY 4, 2008

7:00 A.M. - 8:00 A.M. CONTINENTAL BREAKFAST

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

7:00 A.M. - 5:00 P.M. REGISTRATION CHECK-IN CONTINUES

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

8:00 A.M. - 8:10 A.M. CONFERENCE OVERVIEW & WELCOME

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

Mr. Gary Tull

VICE PRESIDENT, GOVERNMENT OPERATIONS,

AM GENERAL CORPORATION AND

CHAIRMAN, TACTICAL WHEELED VEHICLE DIVISION,

**NDIA** 

8:10 A.M. - 8:15 A.M. NDIA WELCOME

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

LIEUTENANT GENERAL LAWRENCE P. FARRELL, USAF (RET.)

PRESIDENT & CEO

**NDIA** 

8:15 A.M. - 8:45 A.M. KEYNOTE ADDRESS

Mr. Anthony Melita

Office of the Under Secretary of Defense for

Acquisition, Technology and Logistics

(OUSD(AT&L)/A&T/PSA/LW&M)

### MONDAY, FEBRUARY 4, 2008 (CONTINUED)

#### Session I:

CHAIRMAN: Mr. Bruce Harrison, Vice President, Product Support,

**BAE Systems and** 

VICE CHAIRMAN, TACTICAL WHEELED VEHICLE DIVISION, NDIA

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

8:45 A.M. - 9:15 A.M. UNITED STATES ARMY MATERIEL COMMAND (AMC)

GENERAL BENJAMIN S. GRIFFIN, USA

COMMANDING GENERAL, ARMY MATERIEL COMMAND

9:15 A.M. - 9:45 A.M. OFFICE OF THE DEPUTY CHIEF OF STAFF, ARMY G-4

Major General Vincent Boles, USA

Assistant Deputy Chief of Staff, G4 (Operations)

HEADQUARTERS, U.S. ARMY

9:45 A.M. - 10:15 A.M. U.S. ARMY RESERVE

LIEUTENANT GENERAL JACK C. STULTZ, USA

CHIEF, ARMY RESERVE/

United States Army Reserve Command

10:15 A.M. - 11:00 A.M. COFFEE BREAK

SERRA BALLROOM FOYER

Session II

CHAIRMAN: MR. JACK REIDY,

President & CEO, Defense Products Marketing, Inc.

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

11:00 A.M. - 11:45 A.M. OFFICE OF THE DEPUTY CHIEF OF STAFF, G-8,

Headquarters, Department of the Army

LIEUTENANT GENERAL STEPHEN M. SPEAKES, USA

DEPUTY CHIEF OF STAFF, G-8

11:45 A.M. - 12:45 P.M. LUNCH

THE DEANZA BALLROOM I & II

THE PORTOLA PLAZA HOTEL AT MONTEREY BAY

### MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session II (continued) Chairman: Mr. Jack Reidy

12:45 P.M. - 2:00 P.M.

DEPOT PANEL

PANEL CHAIR: MAJOR GENERAL WILLIAM M. LENEARS, USA

COMMANDING GENERAL,

U.S. ARMY TACOM LIFE CYCLE MANAGEMENT COMMAND

#### PANEL MEMBERS:

• Ms. Janet Bean,

EXECUTIVE DIRECTOR, INTEGRATED LOGISTICS SUPPORT CENTER (ILSC), U.S. ARMY TACOM LIFE CYCLE MANAGEMENT COMMAND

• COL Douglas Evans, USA

COMMANDER, RED RIVER ARMY DEPOT (RRAD), U.S. ARMY TA-COM LIFE CYCLE MANAGEMENT COMMAND

• COL SCOTT KIDD, USA

PROJECT MANAGER, TACTICAL VEHICLES, PROGRAM EXECUTIVE OFFICE, COMBAT SUPPORT & COMBAT SERVICE SUPPORT (PEO CS&CSS)

• Dr. John R. Gray

DEPUTY TO THE COMMANDER, LETTERKENNY ARMY DEPOT (LEAD), U.S. ARMY AMCOM LIFE CYCLE MANAGEMENT COMMAND

2:00 P.M. - 2:30 P.M.

USMC Maintenance Center Barstow

COL SCOTT DALKE, USMC

Commander

2:30 P.M. - 3:00 P.M.

COFFEE BREAK

SERRA BALLROOM FOYER

3:00 P.M. - 3:30 P.M.

USMC/MCCDC

Brigadier General Larry Nicholson, USMC

DEPUTY COMMANDING GENERAL,

Marine Corps Combat Development Command

3:30 P.M. - 4:00 P.M.

USMC/MARCORSYSCOM

Brigadier General Michael M. Brogan, USMC

COMMANDER, MARCORSYSCOM

4:00 P.M. - 4:30 P.M.

USMC PEO

COL BILL TAYLOR, USMC

PROGRAM EXECUTIVE OFFICER, LAND SYSTEMS

### MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session II (continued) Chairman: Mr. Jack Reidy

4:30 P.M. - 5:15 P.M.

JOINT MRAP PRESENTATION

 Mr. Paul Mann, USMC Joint MRAP Program Manager

COL Kevin Peterson, USA
 Deputy Joint MRAP Program Manager

5:15 P.M. - 6:30 P.M.

Annual Conference Reception

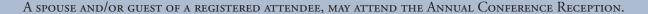
THE DEANZA BALLROOM I AND II

THE PORTOLA PLAZA HOTEL AT MONTEREY BAY

**EVENING ON OWN - ENJOY MONTEREY!** 

#### SPOUSE/GUEST ACTIVITIES

Annual Conference Reception, Monday, February 4



5:15 P.M. - 6:30 P.M. (ADDITIONAL COST OF \$45.00)



A spouse and/or guest of a registered attendee may attend the Annual Conference Reception at an additional cost of \$45.00.

The "Spouse/guest ticket" fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.

### TUESDAY, FEBRUARY 5, 2008

7:00 A.M. - 8:30 A.M. CONTINENTAL BREAKFAST

SERRA BALLROOM FOYER

THE MONTEREY CONFERENCE CENTER

7:00 A.M. - 12:00 NOON REGISTRATION CHECK-IN CONTINUES

SERRA BALLROOM FOYER

THE MONTEREY CONFERENCE CENTER

Session III

CHAIRMAN: MR. TOM BAGWELL (SES),

Deputy Program Executive Officer

COMBAT SUPPORT & COMBAT SERVICE SUPPORT (DPEO CS&CSS),

U.S. Army

SERRA BALLROOM

THE MONTEREY CONFERENCE CENTER

8:30 a.m. – 9:10 a.m. Meeting the Challenges of Today and Tomorrow

• Brigadier General(P) James Chambers, USA

COMMANDING GENERAL/COMMANDANT

U.S. Army Transportation Center and School

• Brigadier General John R. Bartley, USA

PROGRAM EXECUTIVE OFFICER FOR COMBAT SUPPORT &

COMBAT SERVICES SUPPORT (PEO CS&CSS)

9:10 A.M. – 10:00 A.M. OVERVIEW – PM TV & JCSS

(9:10 – 9:30) COL Scott Kidd, USA

Project Manager for Tactical Vehicles

(9:30 – 10:00) COL John "Steve" Myers, USA

PROJECT MANAGER FOR JOINT COMBAT SUPPORT SYSTEMS

LTCOL RUBEN GARZA, USMC PRODUCT MANAGER (USMC)

JOINT LIGHT TACTICAL VEHICLES

Tuesday, February 5 2008

### TUESDAY, FEBRUARY 5, 2008 (CONTINUED)

10:00 A.M. – 10: 15 A.M. MR. GARY TULL

Conference close-out

10:15 A.M. – 10:45 A.M. COFFEE BREAK

SERRA BALLROOM FOYER

(Serra Ballroom will be reconfigured into two rooms)

10:45 A.M. – 12:25 P.M. PM Breakout Sessions

- WILL FOLLOW ON FROM OVERVIEW -

PM TV presentations

Attendees can remain in same ballroom as briefers will rotate

	Group 1 -	Group 2 –	Group 3 –
	Serra (A)	Serra (B)	Steinbeck
			Ballroom
10:45 - 11:15	LTV	MTV	HTV
	LTC SAM HOMSY, USA	Mr. Jim Satchfield,	LTC Lewis Johnson, USA
	Product Manager,	Deputy Product	Product Manager,
	Light Tactical Vehicles,	Manager, Medium	HEAVY TACTICAL VEHICLES
	PM LTV	Tactical Vehicles, PM MTV	PM HTV
11:15 – 11:20	Speaker room transition break		
11:20 - 11:50	MTV	HTV	LTV
	Mr. Jim Satchfield,	LTC Lewis Johnson, USA	LTC Sam Homsy, USA
	Deputy Product	Product Manager,	Product Manager,
	Manager, Medium	HEAVY TACTICAL VEHICLES	LIGHT TACTICAL VEHICLES,
	Tactical Vehicles, PM	PM HTV	PM LTV
	MTV		
11:50 - 11:55	Speaker room transition break		
11:55 - 12:25	HTV	LTV	MTV
	LTC Lewis Johnson, USA	LTC Sam Homsy, USA	Mr. Jim Satchfield,
	Product Manager,	Product Manager,	Deputy Product Manager,
	HEAVY TACTICAL VEHICLES	LIGHT TACTICAL VEHICLES,	Medium Tactical Vehicles,
	PM HTV	PM LTV	PM MTV

- Adjourn until February 2, 2009 -

(FER I 2 2000)

## The National Defense Industrial Association wishes to acknowledge the following Super Bowl Party Sponsors:

**Allison Transmission** 

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**BAE Systems** 

Caterpillar, Inc.

Ceradyne, Inc.

**Cummins Inc.** 

**Daimler Trucks North America LLC** 

**Defense Products Marketing, Inc.** 

**Detroit Diesel Corporation** 

DRS Technologies, Inc.

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### Freightliner LLC

### **Lockheed Martin JLTV Team**

**Mack Trucks** 

**Nevada Automotive Test Center** (**Hodges Transportation, Inc.**)

**Oshkosh Truck Corporation** 

Thank-you for your generous support!

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# The National Defense Industrial Association wishes to acknowledge the following Golf Tournament Hole, Prize, and Super Bowl Party Giveaway Sponsors:

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**CAT** 

Caterpillar, Inc.

**Custom Manufacturing Solutions , Inc.** 

Coorstek

**EnerSys - Hawker Batteries** 

**Force Protection Industries, Inc.** 

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### **General Kinetics Engineering Corporation**

### **International Truck & Engine Corporation**

**Lockheed Martin** 

**Lord Corporation** 

Mack Trucks, Inc./Volvo

**Miltope Corporation** 

**Omega Training Group** 

PPG Industries, Inc.

**Premier Professional Systems, Inc.** 

**Productive Resources** 

**SCS/Frigette** 

**Telephonics Corporation** 

**VT Miltope** 

Whitney, Bradley & Brown, Inc. (Hampton, Virginia Office)

Thank-you for your generous support!

The Tactical Wheeled Vehicles Divison of NDIA thanks you for attending & we look forward to seeing you again next year.

The National Defense Industrial Association (NDIA)

thanks you for your participation in this year's conference, and wishes you a safe trip home.



## Army Wheeled Vehicle Fleet:

From the G-4 Foxhole

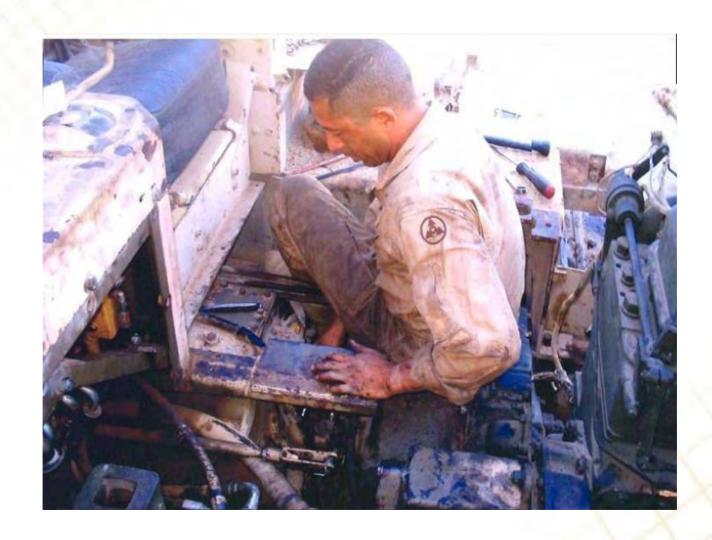
4 February 2008

Major General Vincent Boles
Deputy G4 (Operations)
Headquarters, Department of the Army



## Situational Awareness







## Agenda

- Strategic Context
- Readiness in the Fight Today
- 360° Readiness
- Future Challenges
- Training



### What I Want to Leave You With...

- Supporting our deployed forces is our number 1 priority... been at it for 6 years
- High OPTEMPO is a fact of life in our strategic environment We are in a Period of Sustained Conflict
- □ The Army is working to restore strategic balance & the G-4's part is:

  - Enterprise Visibility, 360° Materiel Readiness and
  - Resetting the Force
- We are not going back to the Army you grew up in



## Strategic Context



## Strategic Environment: 1950-1989

**Peace** 

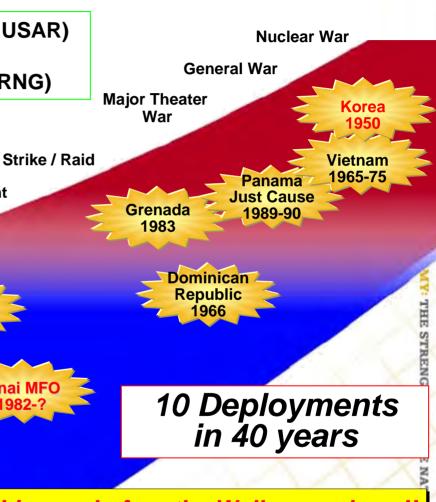
**Enforcement** 

Lebanon

1983

- Korea (1951): 64 Divisions (18 AC; 21ARNG; 25 USAR)
- Vietnam (1967): 40 Divisions (17 AC; 23 ARNG)
- Cold War End (1989): 28 Divisions (18 AC; 10 ARNG)

**Peacekeeping** 



Humanitarian Ops

Domestic Support /
Disaster Relief



... but this was before the Wall came down!!

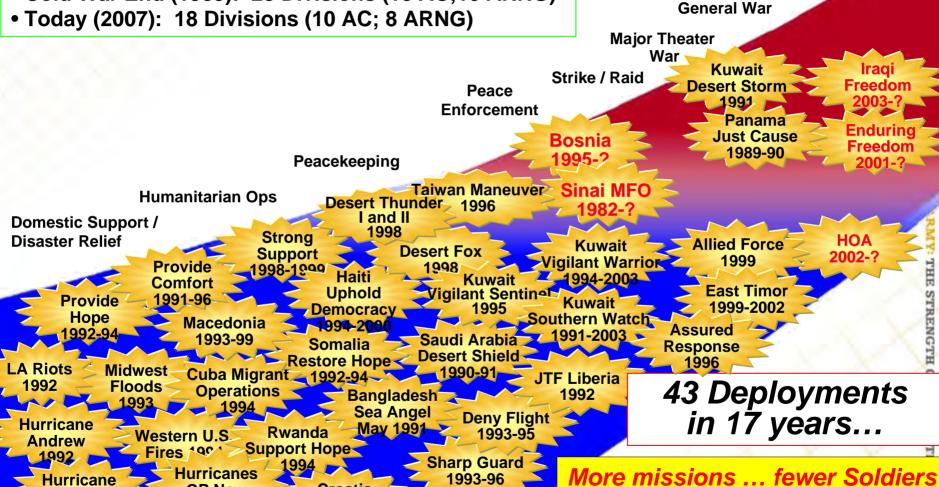
**Nuclear War** 



Iniki

## Strategic Environment: 1989-2007

• Cold War End (1989): 28 Divisions (18 AC;10 ARNG)



re missions ... lewer soluter

Dakota Floods Hurricanes Noble Eagle 1999 Aid 2005

Croatia



MODEL T

## Commercial Wheeled Vehicles:

What does the Future Hold?





'67 CORVETTE





K CAR







**EDSEL** 

THE STRENGTH OF THE NATION



## Tactical Wheeled Vehicles:

What does the Future Hold?



GAMMA GOAT

**STRYKER** 

Caterpillar 3126 turbo diesel 350hp

18-20 STons

\$4.13M/Vehicle





MWRAP \$600K-800K/Vehicle

M998 HMMWV \$60K/Vehicle



UA HMMWV \$150K/Vehicle



WWII - Willys/Ford Jeep 60 hp 134 cu in 4 cylinder 2,290 lbs

Approximate Cost \$2600/vehicle



1899 Woods Electric Staff Car



CUCV



## CSA's Direction

GEN Casey, AUSA Eisenhower Luncheon Remarks



"We will act quickly to restore balance to preserve our All-Volunteer Force, restore necessary depth and breadth to Army capabilities, and build essential capacity for the future. Four imperatives will frame what we need to do. Implementing these imperatives will require several years, considerable resources and sustained commitment by Congress and the American people."



## The Army's Strategic Imperatives



Continue to prepare our Soldiers for success in the current conflict

SUSTAIN

Sustain our Soldiers, Families and Army Civilians

The Soldier...



RESET

Reset expeditiously for future contingencies

TRANSFORM

Transform to meet the demands of the 21st

Century

The centerpiece of our great Army



## The Army's Strategic Imperatives

The G-4's Main Efforts

### PREPARE

- ✓ War time readiness > 90% for six years
- Building Strategic Depth
- REF/RFI and ACU retention initiatives
- □ Every Soldier is a Rifleman

SUSTAIN

RESET

- √Families First Program: \$63M
- √ 15 DeCA projects; \$220M
- √19 AAFES projects; \$170M
- Privatization of Army Lodging
- ✓ Grow the Army & Rebalancing



✓ Industrial base production twice pre-war levels – greatest since Viet Nam

**★** \$17.1B for FY07; \$18.4B for FY08

Reset 25 BCTs

Retrograde/Redeployment
Initiatives

### TRANSFORM

- Employed Theater Level Joint & Modular Logistics HQ
- □ Resourcing RC as an operational reserve (CSS)
- □ Bring Logistics Automation into the 21st Century



# Readiness in the Fight Today



## AOR Readiness Levels

- Continue to achieve Army goal of 90% readiness for the majority of the TWV fleets
  - We have some challenges
- However,
  - Vehicles are rapidly surpassing their projected useful life due to OPTEMPO
  - Reset OPTEMPO must be maintained Sustained Predictable Funding
  - Must continue to improve equipment visibility & tracking capabilities



## 360° Readiness CL VII Objectives

- Is the equipment where it needs to be and serviceable to meet the mission?
- Is the <u>sustaining base resourced and prioritized</u> correctly?
- Is the <u>sustaining base performing as planned</u> to support the National Military Strategy, ARFORGEN, and Grow the Army requirements?
- GOAL: The capability to see, assess, and synchronize the Army's Corporate Enterprise Assets in support of Warfighting Operating Forces.



## 360° Readiness







## Future Challenges



## Sustainment Challenges: Fy2008-Fy2020

- Define balance between Contractor & Soldier support
- Develop an Enterprise Sustainment Strategy that incorporates influx of new Combat Systems (MRAP, JLTV, FCS..)
- Fleet Lifecycle Sustainment costs for Future Force must be affordable (FCS: RAM is a KPP)



# Improved Emphasis on Life Cycle Sustainment Planning

- Integration of Sustainment into Life Cycle Strategy Development
- Maintaining core skills and capabilities
- Modernization of the Sustainment Base
- Meeting 50/50 Statutory Requirements
- Reestablish Base Funding Levels that sustain the Army



# Training



# Training Implications

- □ Train The Soldier of the 21st Century
  - Web enabled Simulators
- Requires constant supply of organic maintenance skills
- Meeting training requirements while supporting extended conflicts
- Gaining efficiencies in training programs
  - A "Complete" Program
- Continuing education & certification requirements throughout career
- Increased Soldier capabilities & troubleshooting skills to help balance the sustainment requirement
- BRAC: A Training Opportunity

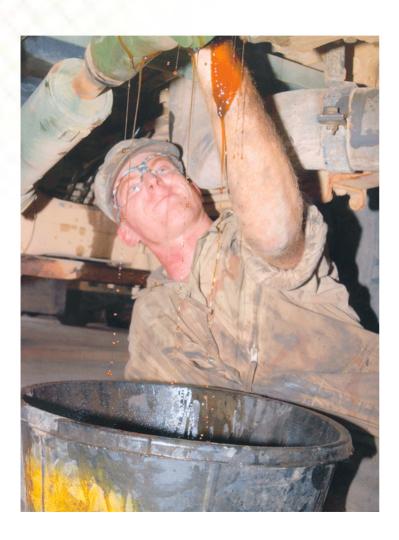


# What I Hope I Left You With...

- Supporting our deployed forces is our number 1 priority... been at it for 6 years
- High OPTEMPO is a fact of life in our strategic environment - We are in a Period of Sustained Conflict
- □ The Army is working to restore strategic balance & the G-4's part is:
  - Enterprise Visibility,
  - 360° Materiel Readiness and
  - Resetting the Force
- We are not going back to the Army you grew up in



# One Thing Remains Constant



The Soldier the Centerpiece of the
Army
Living the Warrior Ethos on duty protecting the Nation
and the society they serve.



# **Marine Corps Logistics Command**

# Mitigating Future Uncertainties by Leveraging Strategic Partnerships

Col Scott Dalke
Commander, Maintenance Center Barstow



# 'Concerns' as Depot Commander





Labor Relations

Net Operating Results



# My Concerns as Depot Commander

- While many topics hold my attention- none are as important as resetting our forces for the unknown future.
- What equipment, being introduced today for tomorrow's missions, will flow through my depot?
- Is the depot resourced properly to reset these assets?



# **Reset Defined**

• "Actions taken to restore units to a desired level of combat capability commensurate with the units' future mission."

The Honorable Jack Bell



# CJCS Guidance for 2007-2008

• "The conflicts in Iraq and Afghanistan will one day end. We must be ready for who - and *what* - comes after."

• "What "comes after" is hard to predict.

Conflict in the future will most likely - - but not exclusively - - demand increased precision, speed and agility."

Admiral M.G. Mullen



# The Uncertainty

• Million dollar question, "What is the unit's future mission?"



# Past Reset, Did we Get it Right?

# Did actions taken Post Desert Storm / Desert Shield reset our forces for OIF?



XVIII Airborne Corps Main Command Post convoy. 29 – 30 January 1991.



Ground Convoy 2<sup>nd</sup> Brigade, 101<sup>st</sup> Airborne division. 26 March 2003.



# **Unknown Become Known**

• The reset force from Desert Storm / Desert Shield was initially successful in Operation Iraqi Freedom.

• Battlefield changed (Uncertainty) when enemy changed tactics and employed Improvised Explosive Devices (IEDs).



## **Unknown Become Known**

• Marine Corps responded through self applied armor followed by Marine Armor Kit (MAK).

• Partnership with industry to field Mine Resistant Anti-Personnel Protective (MRAP).



# Mitigating the Unknown

# Assumptions

- We will train, to some extent, to fight the last war.
- There will always be unknowns when planning for future conflict.
- The ability to rapidly respond is crucial to future success.
- A certain percentage of equipment used in last conflict will be reset for the next.



# Mitigating the Unknown

• Strategic Partnerships between DoD and industry gives commanders the flexibility to rapidly respond to the next unknown and position the depots for the next reset.

• Enables depots to be properly resourced for resets to meet Future Uncertainties.



# **Questions / Contact Info**

Colonel Scott Dalke
Maintenance Center Barstow
CWC 600, Box 110880
Barstow, Ca 92311-5015
E-Mail scott.dalke@usmc.mil
Phone (760) 577-7225





### **FMTV Fleet Overview**





· Three Truck Variants Air Drop Certified

· Reduced Parts & Service Support Requirements · Companion Trailers Double Hauling Capacity

· Weapons Platform

· Troop Transport



# MTV GWOT Support



- AOA
  - RACK Cabs 1,855
  - ◆ LSAC Cabs 2,035
    - Appliqué Kits: 2,035
- Surge Requirements (445)
  - ◆ 248 LSAC Trucks w/appliqué
  - 192 LSAC Cabs w/appliqué
- 1,002 additional LSAC cabs
- FMTV Gunners Restraint (2,022 LSAC; 1,855 RACK)
- Counterweight bumper for M1078 Cargo with LSAC Cab and GPK





### FMTV Significant Events for FY08





Fuel Efficient

 Survivable Reliable

Maintainable

Cost Effective

Mobile

### **FMTV A1P2**

· Suspension Mods

Block 4

- Powertrain Mods
- Diagnostics
- Increased Load Capacity
- · Increased Fuel Economy
- Optimized Maintenance Ratio

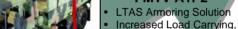


FMTV A0

- CTIS
- 7 speed automatic
- C-130 transportable
- 85% commonality
- 14 variants
- 22 year corrosion

#### **FMTV A1**

- ABS
- Class V IETM
- 100% improved Reliability/MR
- Open systems architecture
- HIMARS/LHS/10 Ton dump
- Trailers



FMTV A1 R

Maintenance Reduction Batteries

#### 19K Axle EPA 2007 Compliant

- Maintenance Reduction **Batteries**

**FMTV A1P2** 

LMTV: Top Feed Axle 260 AMP Alternator

#### **Block 3 Mods**

- Multiplex Wiring
- **Electronic Steering Control**
- (Two Level)

- Maintenance Reduction

1995-1999

**OIF 93%** 

**OR Rate** 

1999-2004

2004-2008

EPA 2004

LVAD

• Expansible Van

Air conditioning

 Improved Reliability/MR Compatibility w/JTA Army

2007-2009

2009-2015



# Long Term Armor Strategy (LTAS)

#### System Description

#### Mission:

To provide a vehicle configuration which is able to adapt armor based on the threat, mission or technology and provide a greater level of protection than current AoA configurations.

#### Characteristics:

SER anticipated

- Factory installed, armor capable cabs, which include A/C and provide the structure for soldier-installed armor kits. Vehicle performance characteristics are not degraded w/o armor kits installed
- The B-kit armor concept allows for future armor upgrades to advanced light weight material (e.g.: ceramics, composites, etc.)
- Requirement: 1996 TWV Crew Protection Kit (CPK) ORD; 2003 FMTV ORD

#### Schedule

| LTAS FOT complete             | Nov 07 |  |
|-------------------------------|--------|--|
| LTAS PVT complete             | Dec 07 |  |
| Ballistic testing complete    | Dec 07 |  |
| LTAS ECP A-cab contract award | Feb 08 |  |
| First LTAS – equipped vehicle |        |  |
| Delivered to Gov't            | Jul 08 |  |
| LTAS Variants testing Mar 08  |        |  |

#### Fielding

# Vehicles Fielded: None

AR2B: 6,023 field to Compo 1 by 2d Qtr FY10 (replace RACK, 5-Ton & LSAC in Theater)

Will begin deliveries in Jul 08



#### Performance/Risk

#### Risk:

- Improvements implemented via Tiger Team (steel wheels, combat lock, etc.)
- Contractor Logistics Support (CLS) for Initial Fieldings
- LTAS production dates based on availability of materials (e.g. Currently non-DX rating)

| Risk       | Performance | Schedule | Cost   |
|------------|-------------|----------|--------|
| Risk Level | Medium      | High     | Medium |

Mar 08











## **Light Tactical Vehicles**



- M966 Tow Carrier
- M996 2-Litter Ambulance
- M997 4-Litter Ambulance
- M998 Cargo/Troop Carrier
- M1025 Armament Carrier
- M1026 Armament Carrier w/winch
- M1035 2-Litter Ambulance
- M1036 Tow Carrier, Armored
- M1037 Shelter Carrier
- M1038 Cargo/Troop Carrier w/winch
- M1042 Shelter Carrier w/winch
- M1097 Heavy HMMWV
- HMMWV A1, A2 Series
- M1113 Expanded Capacity Vehicle (ECV)
- M1114 Up-Armored HMMWV
- M1151 Enhanced Armament Carrier
- M1152 Enhanced Troop/Cargo/Shelter Carrier
- M1165 Enhanced Command & Control Carrier
- M1151A1 Enhanced Armament Carrier (Armor)
- M1152A1 Enhanced Troop/Cargo/Shelter Carrier (Armor)
- M1165A1 Enhanced Command & Control Carrier (Armor)
- XM1167 Enhanced TOW Carrier (Armor)
- M1101/M1102 Light Tactical Trailer (LTT)
- M116A3 3/4 Ton Chassis Trailer
- HMMWV Add-on-Armor Kits (APK)
- HMMWV Recapitalization Program (M1097R1, M1025R1)
- ◆ USMC HMMWV Procurement (inc. M1043, M1044, M1045, M1046, M1123)
- USAF HMMWV Procurement (inc. M1116, M1145)









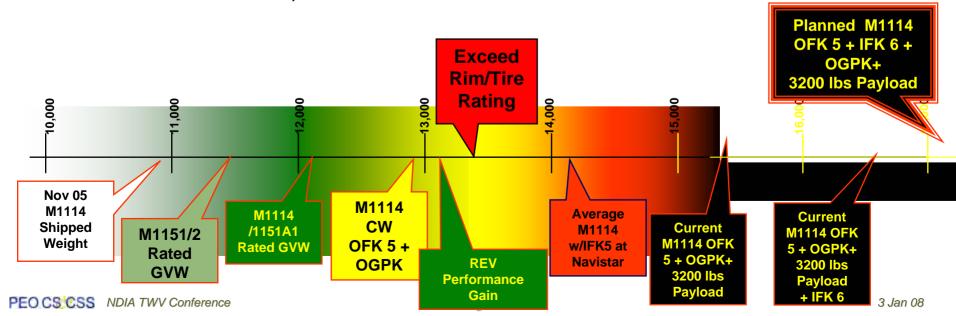
## **Critical GWOT Impact:**



#### LTV

- Additional maintenance and training imposed by hostile environment.
  - Severely overloaded vehicles via armor, ECM, C4ISR, sensors, Soldier gear
  - Frag Kit #6
  - Completed Objective Frag Kit 5 installation
  - Effect OGPK installation
  - Load Range E tire/wheel
  - A/C maintenance (procedures)
  - CASEVAC requirement
  - On-board vehicle power demands → OBVP Kits available on demand







### PM LTV Critical Events for 2008



- Execute Frag Kit 6 (FK6)
- Field FK5, Objective Gunner's Protective Kit (OGPK)-equipped M1151A1s to training base
- Expanded Capacity Vehicle 2 (ECV2) HMMWV test and acquisition
- Execute FCS Spin-Out 1 (FCS SO1) Efforts
- Continue platform support for the Soldier

Priority: GWOT, Modularity, & Fleet Sustainment











# **Heavy Tactical Vehicles**



- M977 Heavy Expanded Mobility Tactical Truck (HEMTT) Cargo
- ♦ M985 HEMTT Cargo w/MHC
- ♦ M978 HEMTT Tanker, 2500 gal
- ◆ M983 HEMTT Tractor
- M984 HEMTT Wrecker
- ♦ M1120 HEMTT LHS
- ◆ HEMTT A3 Electric Hybrid Tech Demonstrator
- **♦** HEMTT A4 LTAS + Improved Performance
- **♦** HEMTT RECAP
- M1074 Palletized Load System (PLS) w/MHC
- M1075 PLS Truck
- ♦ M1076 PLS Trailer
- ◆ PLSA1 LTAS + Imparoved Performance
- M1070 Heavy Equipment Transporter System (HETS)
- ♦ M1000 HETS Semi-trailer
- M1142 Tactical Firefighting Truck (TFFT)
- XM1158 HEMTT-based Water Tender (HEWATT)
- M3/M3A1 Container Roll On/Off Platform (CROP)
- M1977 Common Bridge Transporter (CBT)
- ♦ M14 Improved Boat Cradle (IBC) / M15 Bridge Adapter Pallet (CBT)
- M915 Family of Vehicles
- ♦ M915A5 LTAS + Improved Performance
- M916 Light Equipment Transporter (LET)
- ♦ M917 20 Ton Dump

- Container Handling Unit (CHU)
- M1, M1077/M1077A1 Flat rack
- Fifth Wheel Towing Device (FWTD)
- M870A3 40 ton Low Boy Trailer
- M871A3 22.5 ton Flatbed Trailer
- M872A4 34 ton Flatbed Trailer
- M989A1 HEMAT
- M967A2 5000 Gal Bulkhaul Tanker
- M969A3 5000 Gal Refueler Tanker

#### **AOR**

- Interim Stryker Recovery System
- External Fire Suppression
- Armor









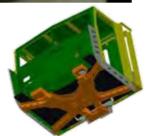
### **Direct AOR Support**



#### M915 Cab Field Kit

- Durable solution transfers AoA weight away from cab to frame rails
- Prevent cab structural and related component damage and failures
- 10 Kits installed for prove out





Fielding Summer 08

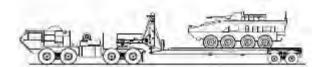
#### External Fire Suppression

- PM HTV responding to an ONS for external fuel tank fire suppression
- Effort is ongoing to procure kits for HEMTT, HET and M915 FOV

Fielding Summer 08

#### Interim Stryker Recovery

Interim Stryker Recovery System is a M983A2 LET pulling a modified Fifth Wheel Towing Recovery Device (FWTRD) and a High Mobility Recovery Trailer (HMRT). The HMRT has a 30T payload carrying capacity, the FWTRD has a 16T lift and tow capacity



#### 18 systems scheduled for fielding

#### LED Headlights

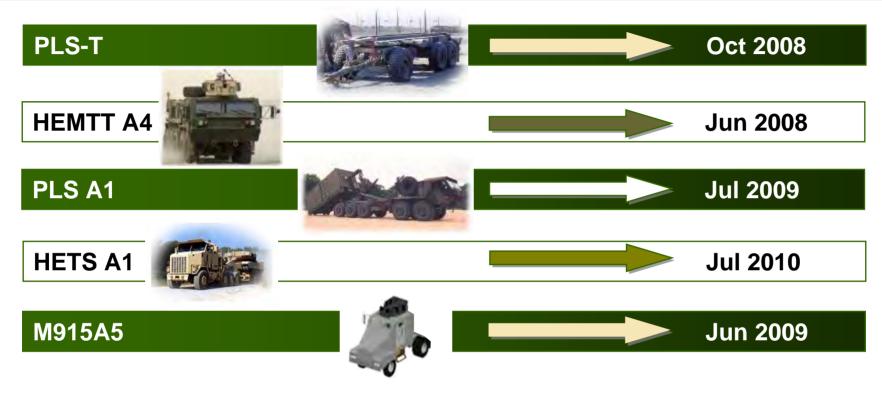
- LED Headlight for the HEMTT fleet, NSN 6220-01-947-9043, and LED Headlight Assy, NSN 6220-01-549-9049
- TACOM awarded Truck Lite Spares 10 Aug for 3000 headlights 6000 headlight assys
- Current 24V system form fit for HEMTT and HMWWVs, unit workaround for other vehicles

Greater light, better durability, no vibration failures



### **HTV Fleet Modernization**





Improvements: Powertrain, Suspensions, Data Bus, LTAS, Fuel Efficiency, ABS & Traction Control, Climate Control, IETMs, Commonality

Must Treat Each Like a New System!



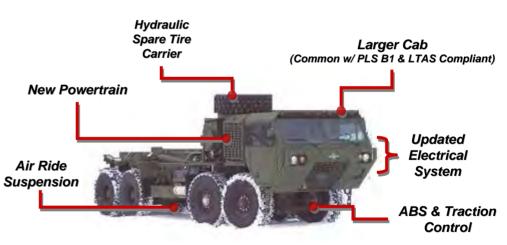
## **HEMTT A4 Program**



#### PROGRAM "Is":

- A Product Improvement Program (PIP)
- Implemented in New Production and RECAP (Fleet Modernization)
- First LTAS Platform for HTV, common cab w/ PLS Block 1
- COMPO 1 Allocation fielded to AOR



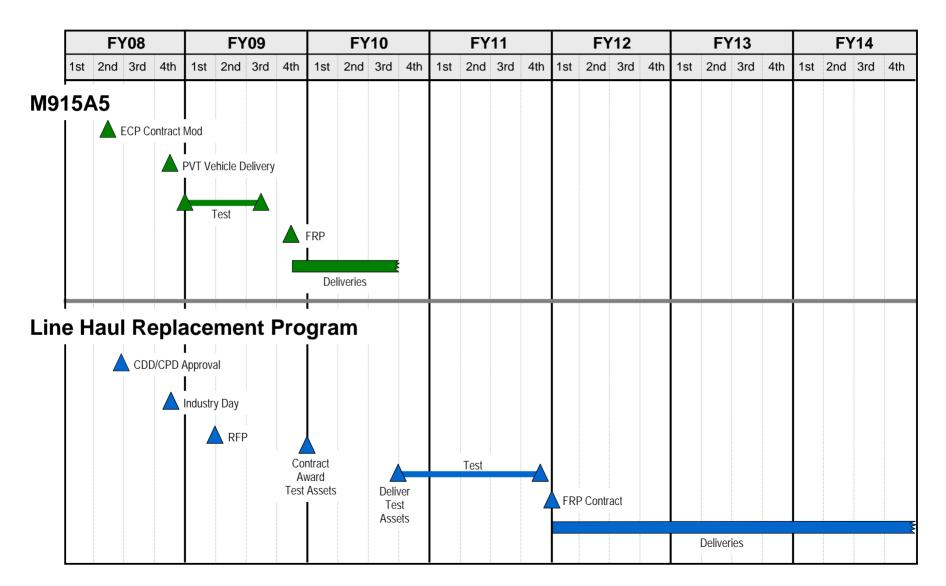


First Units Fielding in Oct 08!



# Line Haul Replacement Strategy







### HTV Significant Events for FY08



- GWOT Support
  - Field External Fire Suppression Kits for HEMTT, HET and M915FOV
  - M915 Cab Field Kit fielding
  - Interim Stryker Recovery System Testing and Fielding
- Continued record production levels for all HTV product lines
- Current Fleet improvement
  - LED Headlights, A/C and cab reinforcements cut into HEMTTA2 production
  - A/C cut into PLS production
- Fleet Modernization
  - HEMTT A4 and armor B-kits begin production
  - PLSA1 enters testing
  - M915A5 enters testing
  - Enhanced Container Handling Unit enters production
  - HETA1 program start
- Family of Heavy Tactical Vehicles contract negotiation



# Questions







**Survivable Vehicles for the Warfighters** 





# Joint Program Office Mine Resistant Ambush Protected Vehicles 03 Feb 2008



Presented by
Paul Mann
JPO MRAP Program Manager





# **Tactical Response**

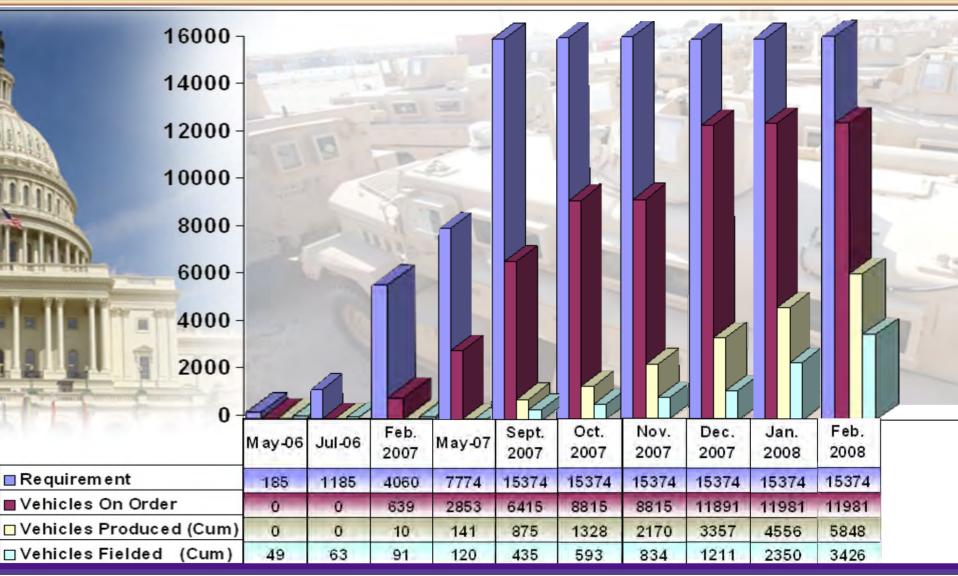
- Change in enemy tactics generated an urgent Warfighter need for:
  - Mine Resistant Ambush Protected Vehicle
  - Large quantities
  - Required ASAP
- MRAP Program is the response to this urgent need
  - Unprecedented effort
  - Unprecedented speed
  - Unprecedented Gov / Industry Teamwork

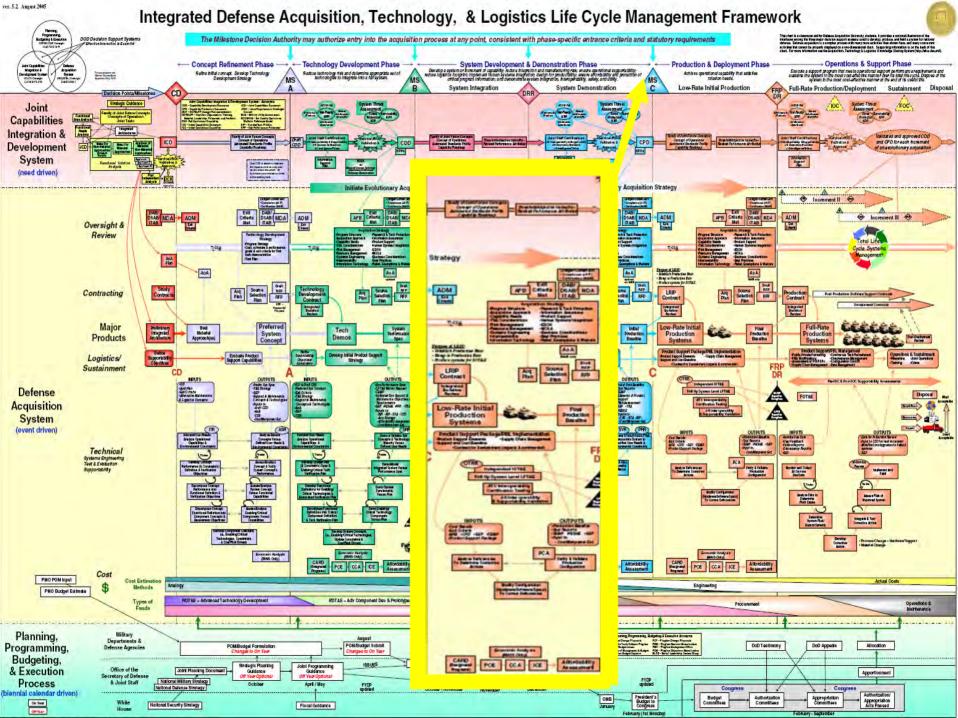




#### **MRAP – The Numbers**





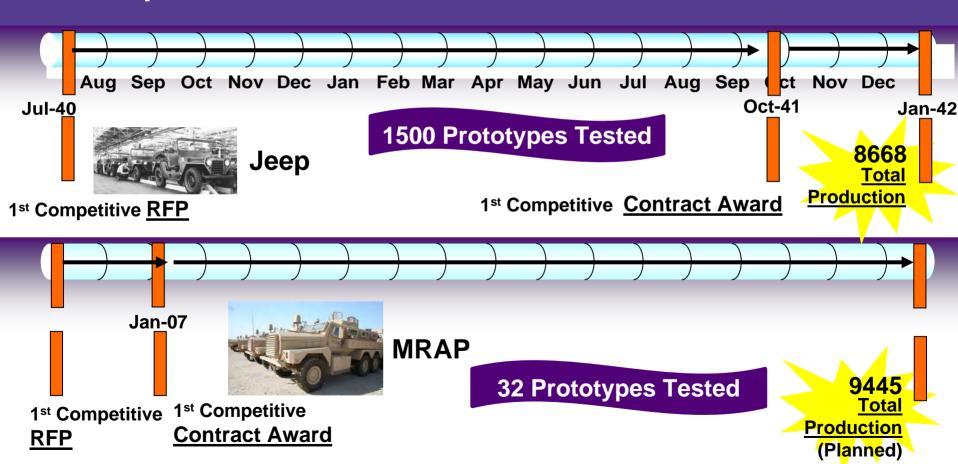




# MRAP - Compared to a Legend



WW II also saw an unprecedented display of the US industrial base capabilities. More than 650,000 Jeeps were produced.



MRAP vehicles are significantly more complex!

### **The MRAP Team Production**

- 5 OEM Vendors
  - 10 Vehicle Variants
  - Global manufacturing facilities





#### **The MRAP Team - Production**

- 62 Major Tier 2 vendors for 15 critical subassemblies, for example:
- Armor (8)
  Diesel Engines (3)
  Suspension components (9)

  Defense Contract **Management Agency (DCMA)**
- **Testing and Evaluation Commands**









#### **BAE RG - 33**

















#### **BAE TVS - Caiman**



# What Action Have You Taken?





Quality, Volume Production

**Committed Support** 



**On Patrol** 



101 ABN - "Survivors"



**Adaptable Protection** 



#### GDLS-C - RG-31

# International Effort. Delivering to Support the Warfighter.





OMC personnel in South Africa celebrate delivery of 121 MRAP vehicles in 2007 after producing a record 91 RG-31s in December.

**RG-31 MRAP production at Demmer in Lansing Michigan.** 



# **FPI - Cougar**





### **IMG - MaxxPro**



# The MRAP Team – Integration

SPAWAR



 Now integrating an average of 50 vehicles per day.



# **MRAP Team - Transportation**



# **TRANSCOM**

#### **Shipping Totals as of January 24, 2008**





# **The MRAP Team - Fielding**

0

- Services and Components
  - USMC
  - USA
  - USAF
  - USN
  - SOCOM
- Service Logistic Commands
- Warfighters

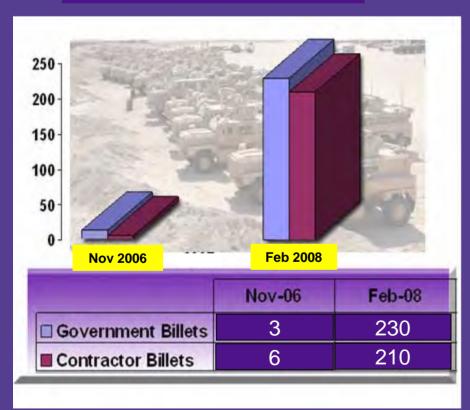


### **Team Growth**

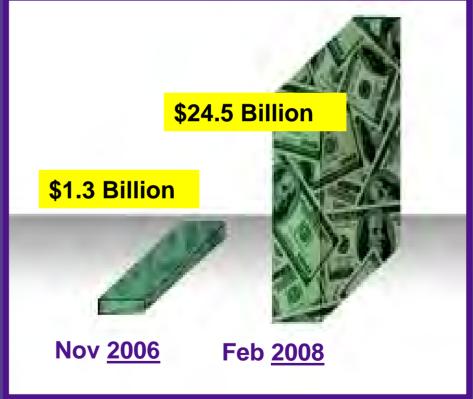
#### •

### **Joint Program Office**

#### **Personnel Billets**



#### **Total Program Funding**



# JPO - MRAP Challenges

- Cost
  - Defining Long-term Sustainment Requirements and Controlling Costs
- Schedule
  - Meeting Accelerated Acquisition, Production and Fielding Requirements
- Performance
  - RAM implications of Engineering Change Proposals and Spiral Development
- Technical
  - Stressing the industrial Base (Axle, Steel and Tire Availability)



## **Our Goals**

- Program Goals are set high and continue to evolve
- The program has met many of those goals many more to meet.
- The vehicles are saving Warfighters lives



## **MRAP Mission**

# **Protecting Those Who Protect Us!**



"We're out the reall the sime and these wehicles who will be able to do what we're doing..."

# **Contact Information**

# Paul Mann JPO Program Manager

E-MAIL: paul.mann@usmc.mil

We are Hiring the Best . . . Now!

Dial 1 (800) JPO - MRAP



# **Tactical Wheeled Vehicles Conference**

## TWV: During and Post OIF

**February 4, 2008** 

Anthony J. Melita
OUSD (Acquisition, Technology & Logistics)
Deputy Director, Portfolio Systems Acquisition,
Land Warfare and Munitions









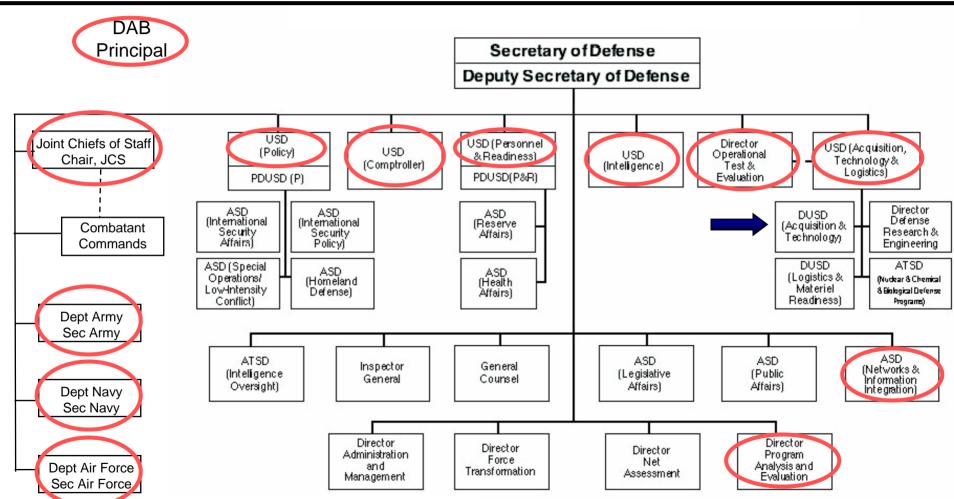
# **Agenda**

- The SECDEF Acquisition
   Organization
- AT&L Goals and Initiatives

Budget Trends



## **Department of Defense**





# DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY)

DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY)

Honorable DR. JAMES I. FINLEY

| DUSD (INDUSTRIAL POLICY)  Mr. Bill Greenwalt                  | DIR, SYSTEMS & SOFTWARE ENGINEERING  Mr. Mark D. Schaeffer       |
|---------------------------------------------------------------|------------------------------------------------------------------|
| DIR, SMALL BUSINESS PROGRAM  Mr. Anthony Martoccia            | PRESIDENT DEFENSE ACQUISITION UNIVERSITY Mr. Frank Anderson, Jr. |
| DIR, DEFENSE PROCUREMENT & ACQUISITION POLICY  Mr. Shay Assad | DIR, DEFENSE CONTRACT MANAGEMENT AGENCY  Mr. Keith Ernst*        |
| DIR, PORTFOLIO SYSTEMS ACQUISITION Mr. David G. Ahern         | DIR, JOINT ADVANCED CONCEPTS Mr. James "Raleigh" Durham          |

#### **Guiding Principles**



# The AT&L Team must INNOVATE AND COLLABORATE to deliver EFFECTIVE, AFFORDABLE tools for the joint warfighter.

- Understand the warfighter's operational concepts and needs
- Engage all stakeholders in collaborative discussions of the war fighting capability, cost, and timeline for all options before spending tax dollars
- Coordinate and evaluate requirements, remaining constantly conscious of technology, cost, schedule, jointness and interoperability imperatives
- Prioritize joint solutions which guarantee interoperability, increase quantities, lower unit cost, and decrease support costs
- Consider all solutions high tech to simple, COTS to military, US to international
- Invest in programs that can transition and meet critical warfighter needs
- Use all sources of information combat experience, intelligence, commercial marketplace, and our technology to inform our choices and to minimize the probability of technology surprise from adversaries







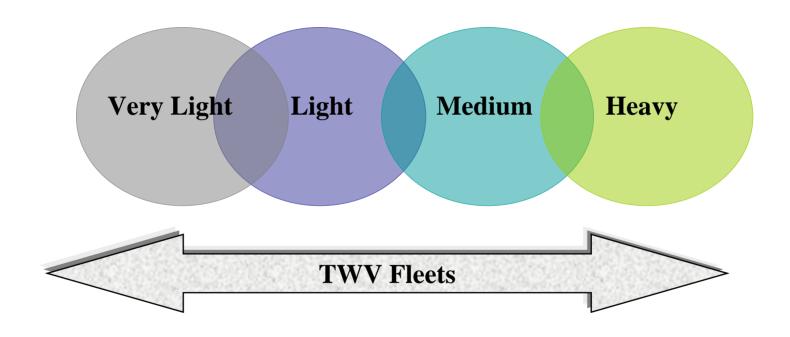


# Tactical Wheeled Vehicles Acquisition Challenges

- The battlefield varies and threats continue to evolve.
- Our ability to meet growing requirements (payload, protection, mobility, supportability) given varied missions, constraints, and priorities
- Quantities of wheeled vehicles needed to deliver capability



# Our Big Picture: During and Post OIF



Acquire and deliver the mobility capabilities needed to support the full range of strategic operations as part of the Department's evolving global defense posture.



#### AT&L Goals and Initiatives

- Prototyping and Competition
- Configuration Steering Boards
- Earned Value Management Systems (EVMS)
- Fully Burdened Cost of Fuel

AT&L wants to drive decisions that yield resilient capabilities at the lowest cost.



# **Prototyping and Competition**

- Too many programs initiated with inadequate technology maturity and knowledge of technical risk.
- All pending and future programs will provide for two or more competing teams producing prototypes of key system elements.
  - Reduce Technical Risk
  - Validate designs and cost estimates
  - Evaluate manufacturing processes
  - Refine requirements

All Acq Strategies requiring AT&L approval must include technical, mature prototyping through MS B.



# Configuration Steering Boards

- Tool to control development and procurement cost growth due to requirements and technical configuration changes.
- Chaired by SAE's, the CSBs will review changes that have the potential to result in cost and schedule impacts to the program.
- Annually, PMs will identify descoping options that reduce cost or moderate requirements.
  - CSB will recommend which of these options should be implemented to reduce cost to the DoD and taxpayers.

The Acquisition policy will be to adjust technical content and requirements to deliver as much as possible of the planned capability within the budgeted cost.



#### **EVMS**

- An EVMS based, System Engineering led plan is one of the key indicators of success.
  - Sound cost and resource estimating
  - Integrated Master Plan and Schedule
  - Technical Performance Measures
  - Risk Management

Lessons learned from Nunn-McCurdy "class of 2007" is that failure in the above were common symptoms of a troubled program.

# Fully Burdened Cost of Fuel

Today's Top 10 Battlefield Fuel Users

**SWA** scenario using current Equipment Usage Profile data

Of the top 10 Army battlefield fuel users, only #5 and #10 are combat platforms

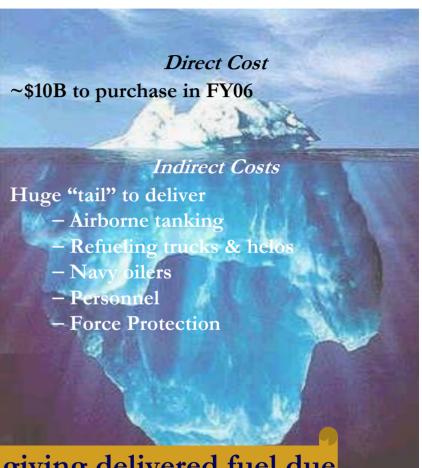
- 1. Truck Tractor: Line Haul C/S 50000 GVWR 6X4 M915
- 2. Helicopter Utility: UH-60L
- 3. Truck Tractor: MTV W/E
- 4. Truck Tractor: Heavy Equipment Transporter (HET)
- 5. Tank Combat Full Tracked: 120MM Gun M1A2 Shooter
- 6. Helicopter Cargo Transport: CH-47D
- 7. Decontaminating Apparatus: PWR DRVN LT WT
- 8. Truck Utility: Cargo/Troop Carrier 1 1/4 Ton 4X4 W/E (HMMWV)
- 9. Water Heater: Mounted Ration
- 10. Helicopter: Attack AH-64D Shooter

Source: CASCOM study for 2001 DSB using FASTALS for SWA.



# Fully Burdened Cost of Fuel

FBCF is the commodity price <u>plus</u> the total lifecycle cost of all people and assets required to move and protect fuel from the point of sale to the end user.



FBCF is a decision tool for giving delivered fuel due consideration in the operational and risk tradespace



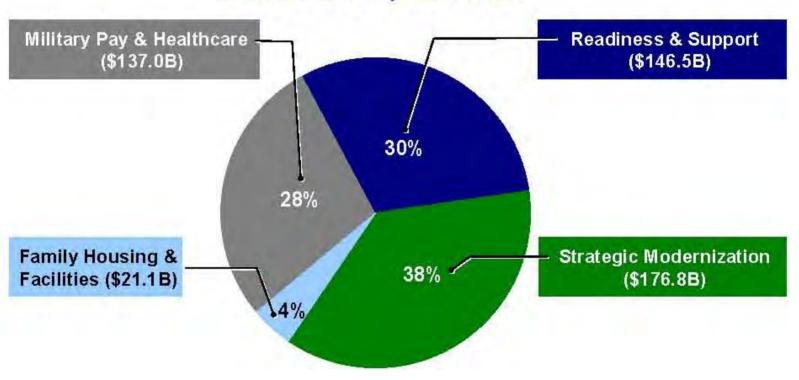
### How do we tackle FBCF?

- Develop a DoD-wide Strategic Plan based on recent DSB report
- Revisit fuel / fuel logistics assumptions in our analysis and budgeting efforts
- Use more realistic planning factors in DoD business processes



# **Budget Trends**

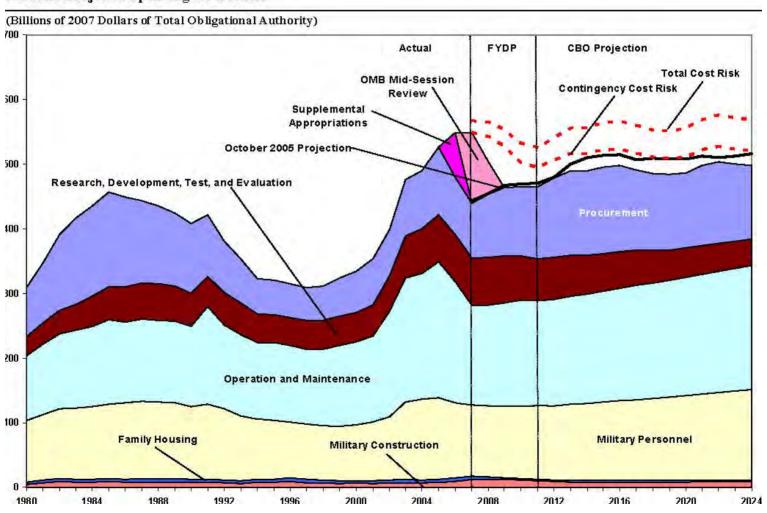
# The FY 2008 President's Budget for Defense: \$481.4B





# Budget Trends- Where are we headed?

Past and Projected Spending for Defense



Source: Congressional Budget Office



# The Future Outlook

- As post OIF/OEF Budgets decline, vehicle programs will be competing with other DoD priorities.
- Tradeoffs and Assessments between

```
FCS JLTV Stryker MRAP Unmanned Systems H1 V-22 HMMWV UAH .......
```

 Paying for the O&S "tail" will require difficult choices

Programs will be assessed according to their ability to work in a joint, integrated architecture/environment.

Command and Control, logistics support, as well as performance are critical focus areas.



# Marine Corps Ground Combat Tactical Vehicle Strategy



Brigadier General Larry Nicholson Headquarters, U.S. Marine Corps (CD&I) Quantico, Virginia



# How we think about Tactical Mobility



MCO/ MEF

IRREGULAR/ GWOT/ CONPLAN 7500

#### Forcible Entry Capability

... support a MEF ( two MEB assault echelon) forcible entry operation.



#### MCO Surge

Conduct and win conventional campaigns -- (1) Deter inter-state coercion or aggression through forward deployed rotational forces; (2) If directed, conduct and win up to two nearly-simultaneous large-scale conventional campaigns (or one conventional campaign if already engaged in a large-scale, long duration irregular warfare campaign).



# Irregular Warfare & Rotational Demand

Prevail in the War on Terror/Conduct Irregular Warfare -- if directed, conduct a large-scale, long duration irregular warfare campaign, to include counter insurgency, security, stability, transition and reconstruction.



**Total Tactical Mobility Demand** 

**No Single Solution** 



# **OSD Ground Combat Tactical Mobility Guidance**

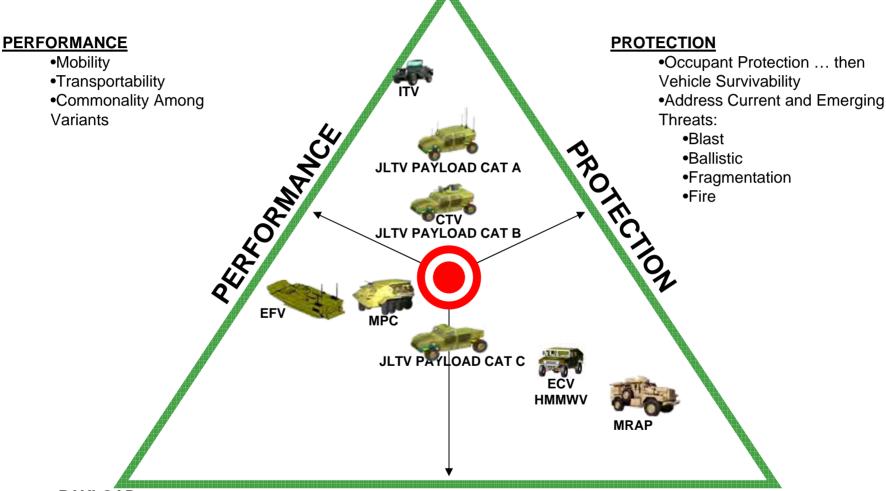
- Task from Strategic Planning Guidance:
  - P. 10: "(U) The Marine Corps will consider capability alternatives for review by the DAWG to support a <u>single</u> two MEB forcible entry operation. Additionally, the Marine Corps will propose an <u>appropriate mix of ground combat vehicles</u> to support irregular warfare operations.

Overarching Defense Strategy: "Shift from conventional to irregular capability."



# **Vehicle Development Considerations**

#### The Iron Triangle



**PAYLOAD** 

•Optimized for Concept of

Employment and Mission Equipment
Packages

**PAYLOAD** 



# **Strategic Transformation & Implementation**

- Where we were: A general purpose force organized, trained and equipped principally for traditional threats.
  - Approached irregular challenges as a subset of MCO.
  - Recent experience has highlighted the need for resources focused on irregular warfare.
  - QDR and SPG have directed a shift to irregular.
- Where we are going: A multi-purpose force organized, trained and equipped for irregular and traditional threats.
  - Risk: Accept risk in strategic agility, while enhancing tactical capability.
  - Divestment: Divested resources from EFV program.
  - Reinvestment: Reinvested in mobility for an expeditionary multi-purpose force.



# **Ground Combat Tactical Mobility Strategy Objectives**

To develop a portfolio of mobility capabilities that provides a distribution of assets and **performance**, **protection**, **payload** and **transportability** characteristics that:

- 1) Support rapid transition between concentration and dispersion of MAGTF combat power (<u>tactical flexibility</u> to balance traditional and irregular threats).
- 2) Support strategic deployment in the context of the Naval Operating Concept (<u>strategic agility</u> to preserve global freedom of action).
- 3) Provide capacity to <u>meet and sustain</u> worldwide Marine Corps commitments (sustainability for forward presence, security cooperation, preemption and global response).

**Endstate:** Provide Marine Corps forces with balanced ground combat tactical lift capabilities.

#### Portfolio: System of systems, family of systems, complementary capabilities



EFV





JI TV



HMMWV / ECV



MRAP



ITV

4 Feb 2008 UNCLASSIFIED



# **Ground Vehicle Capability**

- ✓ MEF (2xMEB assault echelon) forcible entry capability
  - EFV 1013  $\rightarrow$  573
- ✓ Appropriate mix of ground combat vehicles
  - ✓ Marine Personnel Carrier (MPC) ~600
  - ✓ Internally Transportable Vehicle (ITV) 699 (enhanced mobility of vertical assault force)
  - ✓ Light/Medium vehicle mix
    - Mine Resistant Ambush Protected (MRAP)
    - Joint Light Tactical Vehicle (JLTV)
    - HMMWV / Expanded Capacity Vehicle series (ECV)
    - Levels of protection inherent in each



# **Internally Transportable Vehicle (ITV)**



 The ITV will provide a deployed MAGTF with a ground vehicle that is internally transportable in the MV-22 tilt-rotor aircraft, CH-53, and MH-47 aircraft.

 The vehicle will serve primarily as a high mobility weapons-capable platform to support a variety of operations and provide enhanced mobility for the otherwise foot-mobile vertical assault element.

• Acquisition Objective = 699

• IOC: 2009 • FOC: 2015



# **Expanded Capacity Vehicle**

#### **Expanded Capacity Vehicle (ECV)**







M1151

M1152

M1165

• Acquisition Objective = Dependent on JLTV schedule

 Interim replacement for the HMMWVA2 as multipurpose utility vehicle.



# Joint Light Tactical Vehicle (JLTV)



Acquisition Objective = 5,500 (Increment 1)

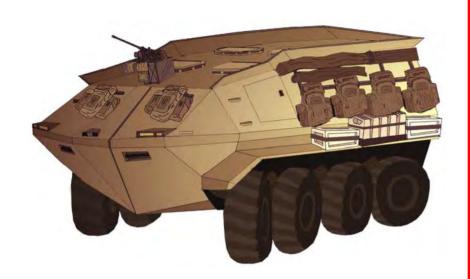
• IOC: 2012

FOC: 2018 (Estimated)

- •HMMWV replacement vehicle (over time).
- •JLTV Family of Vehicles with multiple Mission Role Variants (MRV) and trailers (Combat, Combat Support, Combat Service Support).
- Supports USMC Ground Mobility Initiative to retain expeditionary nature and multi-purpose capability.
- Increased survivability, mobility, and sustainablity in a networked environment.



# **Marine Personnel Carrier (MPC)**



Acquisition Objective = ~600

•IOC: 2015

•FOC: 2019 (Estimated)

- •Provides infantry battalions with general support (ground) mobility across range of military operations.
- •Complements EFV by closing operational gaps in our ability to conduct protected maneuver.
- •Expeditionary platform that balances the protection, payload, and performance attributes to enable maneuver and to enhance personnel survivability.
- Supports USMC Ground Mobility Initiative to retain expeditionary nature and multi-purpose capability.
- Analysis of Alternatives considered a broad range of light and medium armored vehicle solutions and several concepts of employment.



# Mine Resistant Ambush Protected Vehicle (MRAP)



**CAT 3: Buffalo (route Clearance)** 



CAT 1: 6 seats



CAT 2: 10 seats

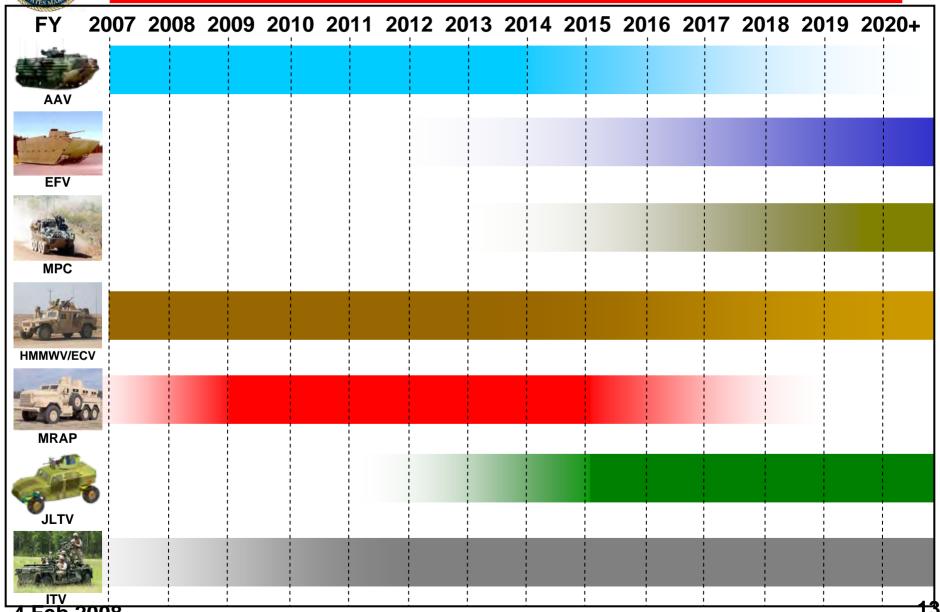
USMC Acquisition Objective = 2,225

• IOC/FOC: 2008

- CENTCOM theater requirement.
- Significant increase in force protection over the current tactical wheeled vehicle fleet.
- Expeditious answer to a force protection problem but carries with it a host of non-expeditionary characteristics and limitations
- Limited long-term USMC requirement (<500 vehicles) for Engineer/EOD Route Reconnaissance and Clearance.
- Capabilities and limitations of MRAP vehicle underscore the need for a JLTV capability in the TWV fleet.
- The Marine Corps currently has 819 MRAPS fielded in IRAQ



# **Ground Combat Tactical Mobility Portfolio**



**UNCLASSIFIED** 



# **Questions**



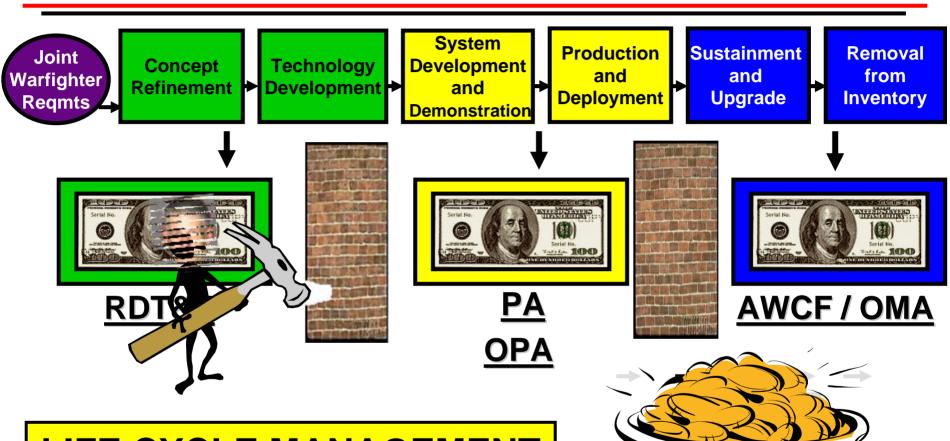
# **Transforming the Public-Private Relationship**

## **DEPOT PANEL**

- MG MIKE LENAERS
   TACOM LCMC Commanding General
- Ms. JANET BEAN
   Integrated Logistics Support Center Executive Director
- COL SCOTT KIDD
   PEO CS&CSS Tactical Vehicles Project Manager
- COL DOUG EVANS
   Red River Army Depot Depot Commander
- Dr. JOHN GRAY
   Letterkenny Army Depot Deputy to the Commander



# Tactical Wheeled Vehicle Conference Transforming LCMC Relationship

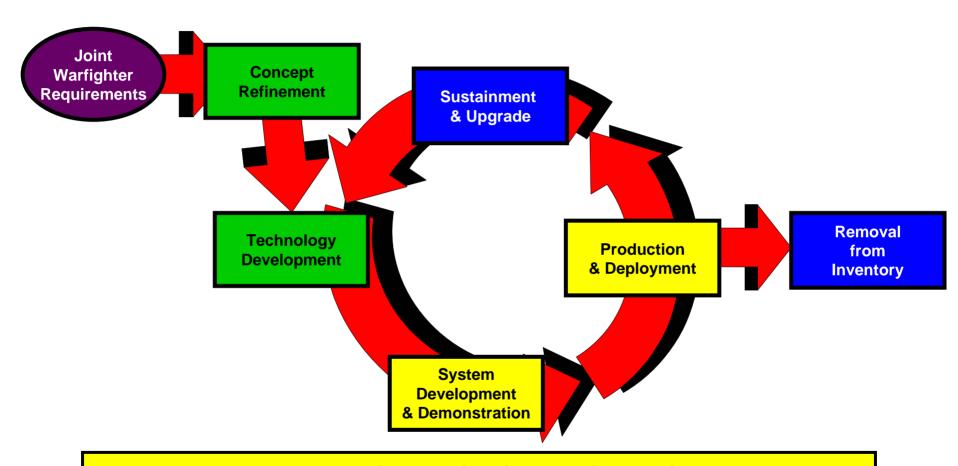


LIFE CYCLE MANAGEMENT
REQUIRED A CHANGE IN
HOW WE VIEWED THINGS





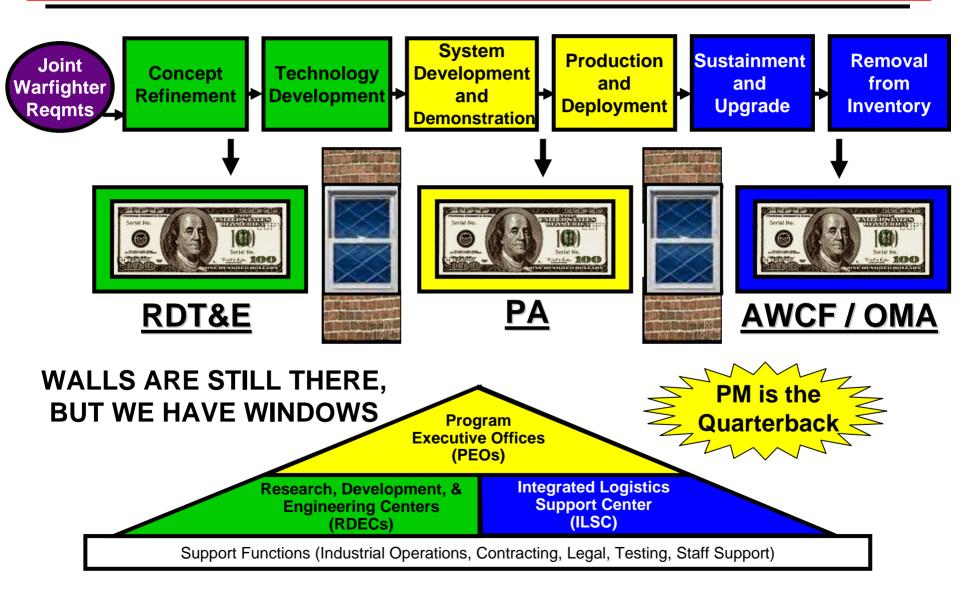
# LIFE CYCLE MANAGEMENT IS NOT LINEAR



APPLY UPGRADES TO SYSTEMS BASED ON OPERATIONAL LESSONS AND TECHNOLOGY IMPROVEMENTS THROUGHOUT THE LIFE CYCLE



# LIFE CYCLE MANAGEMENT INTEGRATION





# THE DEPOT - INDUSTRY RELATIONSHIP

## IT'S THE LAW:

50/50 (USC 2466):

50 percent of the funds for depot-level maintenance and repair workload

**DEPOT CORE** (USC 2464):

Core logistics capability that is Government-owned

and Government-operated

# **DEPOT vs INDUSTRY**

PM

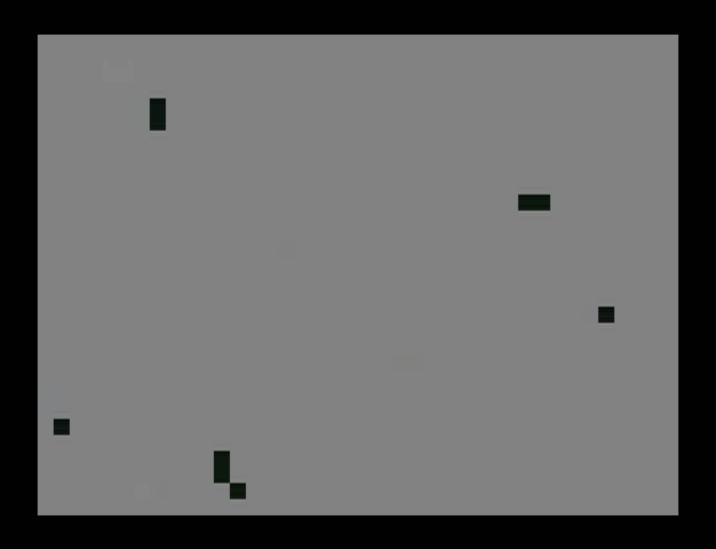
But that's the way we always did it!





SHOULD NOT BE A DIVIDE THE BABY APPROACH

# PARTNERING IS A BETTER IDEA . . . USUALLY





## THE DEPOT – INDUSTRY RELATIONSHIP

**DEPOT** 

PM

**INDUSTRY** 

# PARTNERSHIP VS COMPETITION **EXPLOIT STRENGTHS**

**ENGINEERING AND SYSTEM INTEGRATION CUTTING EDGE TECHNOLOGY** SUPPLY CHAIN MANAGEMENT WORLD WIDE DEALER NETWORKS **COMMERCIAL SCALE** 

TRAINED, DEPLOYABLE WORK FORCE **SECURITY & FORCE PROTECTION** 

**INFRASTRUCTURE** 

LEAN ENTERPRISE INDUSTRIAL BEST PRACTICES

> FOCUS ON TOTAL ENTERPRISE PERFORMANCE **EXPLOIT STRENGTHS**





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# MS. JANET BEAN

Integrated Logistics Support Center - Executive Director



Integrating Supply Chain Solutions Across the Industrial Base



- The Organic Industrial Base
  - > What It Can Do
  - What It Needs From Us
- A Better Road Map
  - Breaking Down the Walls





Unclassified

#### **Tactical Wheeled Vehicle Conference**

# **Organic Industrial Base Capabilities**

#### Engineering and Prototyping

- Product design and development
- Material testing
- Manufacturing support

#### Manufacturing

- Precision Machining
- Fabrication/Assembly
- Casting/Forging
- Heat Treatment/Plating/Finishes
- Tool, Die, and Gage

#### Maintenance and Overhaul

- Systems/Subsystems Support
- Optics/Electronics
- Unique Processes
- Testing

#### Field Services

- Forward Repair Facilities/Teams
- Spare/Repair Parts
- Receipt, Storage, and Issue of Equipment





# **DoD Logistics Chain**



Prime Vendors
Sub Contractors
Other Vendors



ICPs
Maintenance Depots
Supply Centers
Distribution Centers



Retail Supply
Organizational maintenance

# TOO MANY WALLS PLUS TWO COMPETING SUPPLY CHAINS

**Tactical Operations** 

Organic Industrial Base Operations

**Untapped Potential – Need a Supply Chain that Works for Them** 

**Unclassified** 



# "What Constitutes a Good Supply Chain?"\*

- Complete, recognizable supply chain
- Supply Chain Metrics
- No Walls; Transparency
- Efficient, collaborative Information Systems
- "Factor In" the impact of uncertainties



# Lean Six Sigma Process Flow Speed Data and Facts

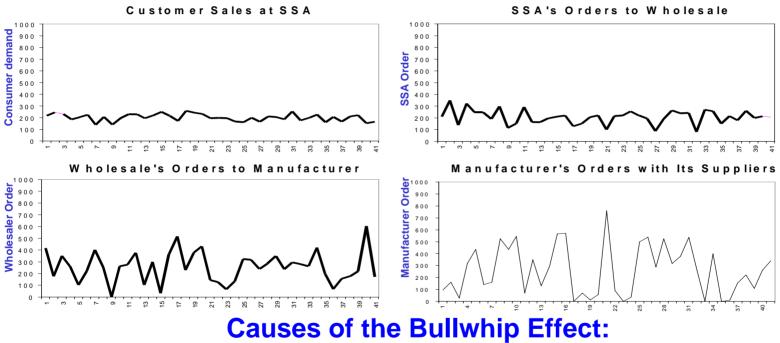
#### **Preliminary Findings From our LS6 Project**

- No agility in year of execution
- Too many work arounds system is compromised
- Data not easily acted upon
- Lack of information sharing undermines performance



# Pitfalls of Missing the Mark in SC Solutions

# The Bullwhip Effect



- Lack of Coordination & Collaboration Across the Enterprise
- Imbalance of JIT vs. JIC inventory stocking

Industrial Base Results: "G" Coded Vehicles, Missed Fieldings, Impact to Warfighter

14 Unclassified

# Collaborative Planning and Forecasting For Replenishment



#### **GOVERNMENT**

- Demand History
- Monthly Demand Rate
- Stock on Hand

#### **VENDOR**

- Production
- Capacity
- Raw Material Orders
- External Business Factors



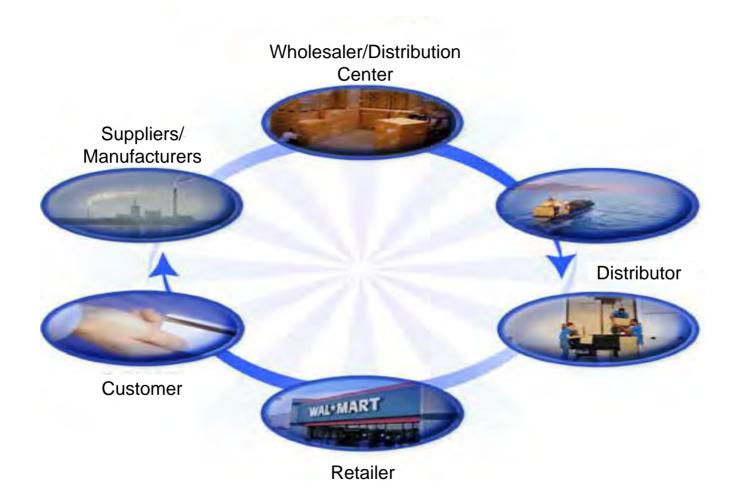
# **Initiatives That Are Moving Us Forward**



**Customer Pay** 



# **Commercial Supply Chain**



# We Want to End Up Here!





# **COLONEL SCOTT KIDD**

Project Manager - Tactical Vehicles





# **Supported Programs**

# HMMWV Recap (OPA)

 Recapitalizes HMMWV A0/A1 variants to R1s (M1097R1/M1025R1)

# Improves Platform by

- Increasing payload on cargo variants
- Provides 6.5L detuned engine, rebuilt transmission, new or rebuilt driveline components, upgraded brake and suspension components, 200AMP alternator
- Inspect Repair Only As Needed (IROAN) select components

## Locations

- Red River Army Depot (RRAD)
- Letterkenny Army Depot (LEAD)
- Maine Military Authority (MMA)

## Production

~ 790/Month

# HMMWV Reset (OMA)

- RESET, Non RECAP Variants
  - M1114, M1113 and A2 Variants

# Improves Platform by:

 Standard 10/20+ 3D (Delayed Desert Damage) including MWOs

#### Location

Red River Army Depot (RRAD)

# Production

Average per month: 195

BL: \$561.3 M worth of business in 07



# **Supported Programs**

- ASV RESET (Pilot Program) (OMA)
  - 5 Vehicle Pilot Program (10/20 + 3D + MWO)
- Improves Platform by:
  - Major Component IRON
  - Upgrades transmission to Gen 4
  - Installs Frag Kit 1
  - Incorporates ECPs upgrades
    - Turret bolts, firing switch and parking brake inhibitor
- Location
  - Red River Army Depot (RRAD)

# HEMTT RESET (OMA)

No configuration changes

# Improves Platform by:

- Complete rebuild with overhaul of all major assemblies
- Enhanced OR
- Returns Platform to Zero Miles

# Locations

Red River Army Depot (RRAD)



BL: \$33.7 M worth of business in 07



# **Supported Programs**

- M939 RESET (OMA)
- Improves Platform by:
  - 10/20+ 3D including MWOs
- Location
  - Red River Army Depot (RRAD)
  - 1086 programmed
- FMTV RESET (OMA)
  - RESET, Condition Code = A
- Improves Platform by:
  - Complete rebuild with overhaul of all major components
- Location
  - Red River Army Depot (RRAD)
  - 300 Vehicles programmed

- M870/M872 Trailer RESET (OMA)
  - RESET, No configuration changes
- Improves made:
  - 10/20+ 3D including MWOs
- Location
  - M870/M872 Sierra Army Depot (SIAD) and Red River Army Depot (RRAD)





# **Other Depot Support**

# Manpower/Facilities Support:

- Five of the Army's Depots provided manpower, facilitization efforts to rapidly produce over 16,000 retrofit kits to support Theater Operations.
  - Effort complete

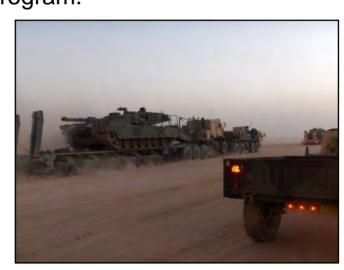
# **Manufacturing Support:**

Depot System is manufacturing Objective Gunner Protection Kits to support Up-Armored HMMWV's GPK Upgrade Program.

# Partnerships:

Ensured partnerships with commercial manufacturers provide capabilities in support of Surge Operations.

BL: When the tide comes in, all ships rise! (How do you position for low tide?)







## COLONEL DOUGLAS EVANS

Red River Army Depot - Depot Commander

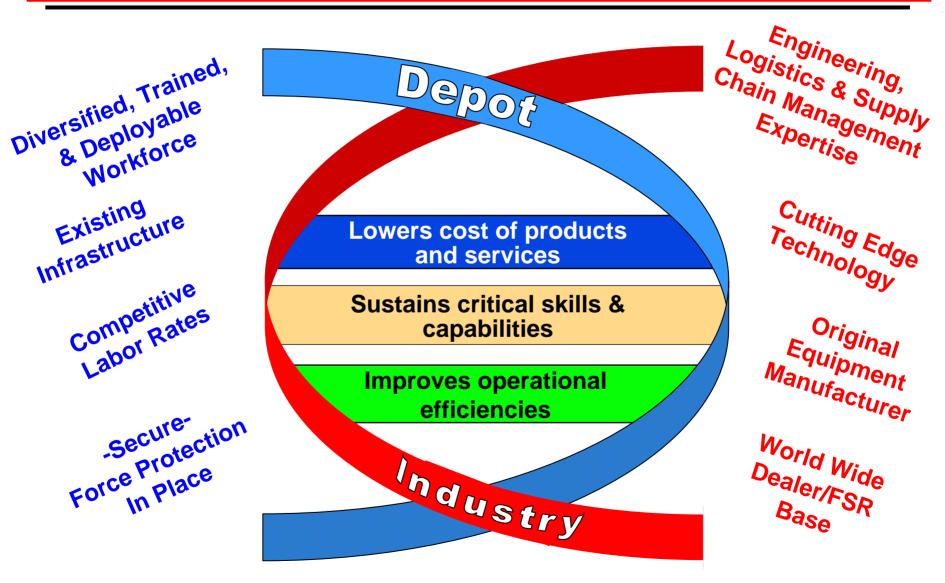


ISO 9001:2000 Certified

Partnering & Lean



## **Public-Private Partnerships Work**



## **High Mobility Multi-purpose Wheeled Vehicle**

## Direct Army Program to RRAD for Reset & Recap

#### RRAD is Prime

- Program Management
- Technical & Engineering Support
- Quality
- Manages Sub-Contracts for Engines, Transmissions, & other Outsourced Work
- Direct Labor for Reset & Recap

#### Customer Pay Contract to AM General

- Supply Chain Management
  - Procures & Stores Parts
  - Configures Parts to Work Station Sets
  - Delivers Parts and Work Station Sets to the Production Shop Floor

- Parts Are Stored Off Site No Warehouse Space Required on RRAD
- No Production Line Stoppage for Parts Shortages in Over 400 Days
- Production Line Efficiency Maintained



## Family of Medium Tactical Vehicles (FMTV)

## P3 with BAE Systems Mobility and Protection Systems

#### BAE Systems is Prime

- Program Management
- Technical & Engineering Support
- Provides Qualified Cabs (GFM from SIAD)
- Manages CFM Sub-Contracts for Axels, Engines, Transmissions, Cranes, & other Major Components
- Provides Supply Chain Management Support to RRAD

#### RRAD is Sub-Contractor

- Provides Facilities, Tools, & Equipment
- Expedites Parts and Stocks Bins
- Performs Direct Labor for Reset

#### DCMA on Site at RRAD

#### Benefits to the Army

- Establishes Depot Capability at RRAD
- Sustains Critical Skills & Capabilities
- Provides Cadre of Skilled Personnel for Deployment

Unclassified 25

## Family of Heavy Tactical Vehicles (FHTV)

## P3 with Oshkosh Truck Corporation (OTC)

- Performance Based Logistics (PBL) Contract
  - HEMTT
  - HET
  - PLS

#### OTC Is Prime

- Program Management
- Technical & Engineering Support
- Quality Oversight
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#### RRAD Is Sub-Contractor

- Facilities, Tools, & Equipment
- Direct Labor

- Standardized SOW Between RRAD & OTC Transparent to War Fighter
- OEM Warranty via OTC worldwide service centers & dealerships
- Configuration Management



## Mid-Range Caterpillar Engines

#### Six Sigma Charter Team Established Feb 07

- Caterpillar Corporate
- Caterpillar Holt
- RRAD
- ■TACOM

#### Objectives

- Establish Mid-Range Caterpillar Engine Repair Capability at RRAD
- Compliance with Established Caterpillar Certified Processes & Procedures
- Direct Labor Performed by RRAD
- Develop P3 with Caterpillar
  - Supply Chain Management to Obtain Certified Caterpillar Parts
  - Warranty Claims & Service by Caterpillar Dealerships and Service Centers (worldwide)

#### Pilot Overhaul On Going

Data Will Drive Business Case Analysis for Future Work

- Utilize Caterpillar Proven Experience from Commercial Engine Sector
- Data Collection for Determination of Maintenance Requirements
- Warranty Claims & Service by Caterpillar Dealerships and Service Centers (worldwide)



## **Armored Security Vehicle**

## P3 with Textron Marine & Land Systems

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FY07 P3 Revenue >\$170M

**70 Active Contracts with industry** 

FY08 P3 Revenue goal \$225M



## DR. JOHN GRAY

Letterkenny Army Depot - Deputy to the Commander



Partnering & Lean



Partnership - a relationship resembling a legal partnership and usually involving close cooperation between parties having specific legal rights and responsibilities

# SHIP PARTS

**Supplier Partnership** 

**Provider Partnership** 



## **Customer Pay - Integrated Supply Chain Partnership**

- Achievable With New Business Practices
  - Not unlike "Prime Vendor"
  - Modeled after industry practice
  - Strength of industry in SupplyChain management
- Reduction of Inventory and Storage Costs

- Better Forecasting and Demand Collaboration
- Cost Per Vehicle is Down
- Strong and common supply chain between OEM and Life cycle Maintenance Activity



## **Core Competency**

## Industry

- Supply chain management
- Obsolescence management
- Engineering management
- Program management

## Military Depots

- Artisan technicians
- Established repair capability
- Diversity of capability
- Infrastructure
- Integral to defense maintenance systems



## Partnerships of the Future

- Shared Information
- Integrated enterprise
- Focus on total enterprise performance
- No clear boundary





## Where We Want To Go in the Future



Partnerships are the Future







75% of everything depots do is on contract











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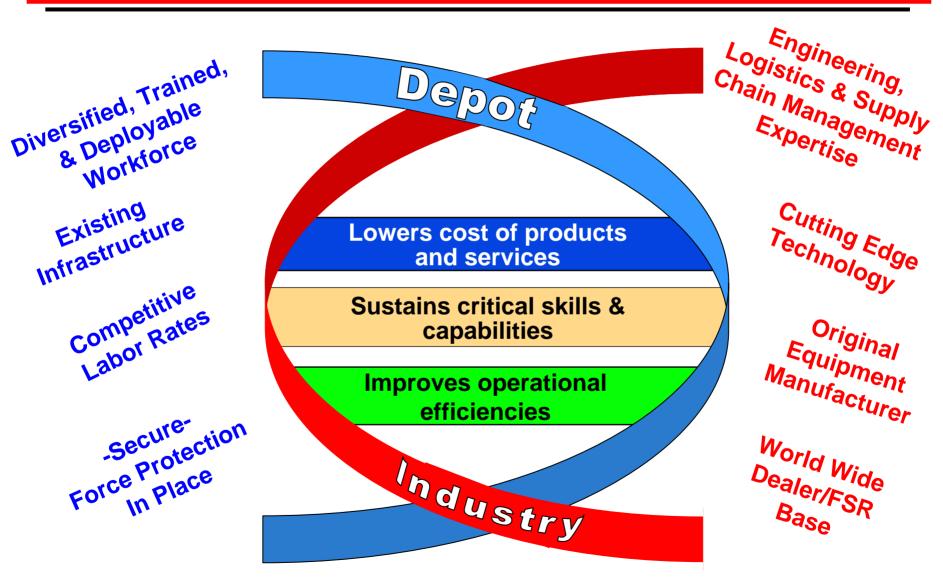


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## **COLONEL SCOTT KIDD**

Project Manager - Tactical Vehicles



## AMERICA'S ARMY: THE STRENGTH OF THE NATION™

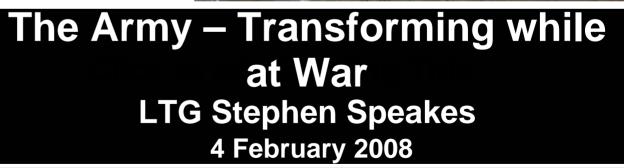














## Agenda

- Strategic Construct
- Resourcing an Army at War
- Army Modernization Strategy
- Tactical Wheeled Vehicle Strategy
- The Way Ahead



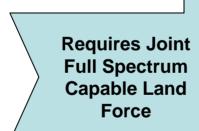
## **Persistent Conflict**

<u>Protracted confrontation</u> among state, non-state, and individual actors who use violence to achieve political and ideological ends

#### Trends fueling conflict

- Globalization
- Population growth
- Resource demand
- Climate change and natural disasters
- Proliferation of WMD
- Failed or failing states

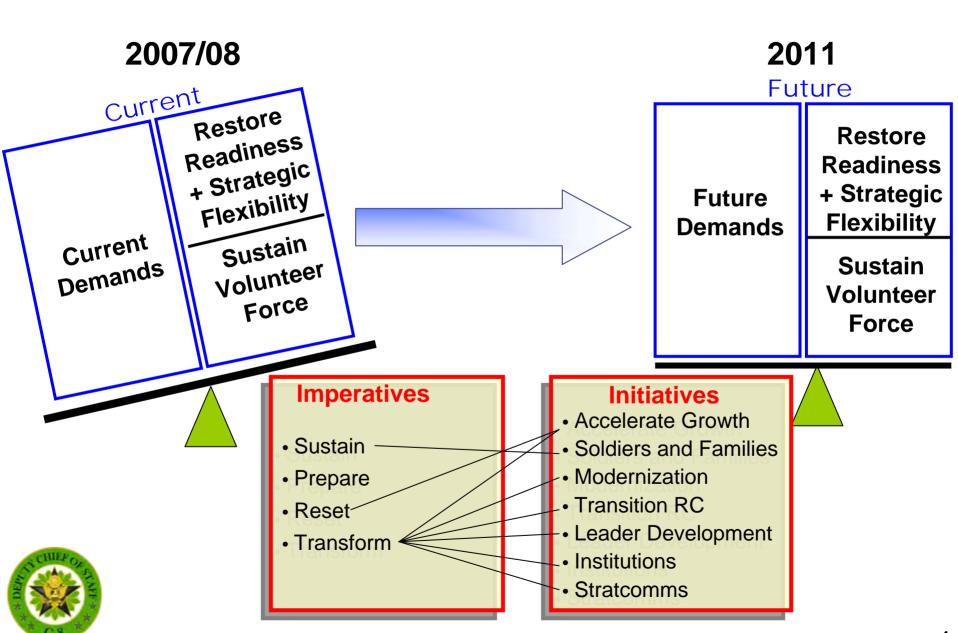




#### Required Capabilities

- Enhanced Soldier Protection
- Modular, Scalable, and Tailorable Battle Command and Control – Network down to the lowest level
- Strategic Force Projection Intra-theater Operational Maneuver and Sustainment
- Modular, Tailorable Forces Adaptable to Present and Future Threats
- Capability for Lethal and Non-Lethal Overmatch

## **Restoring Balance**



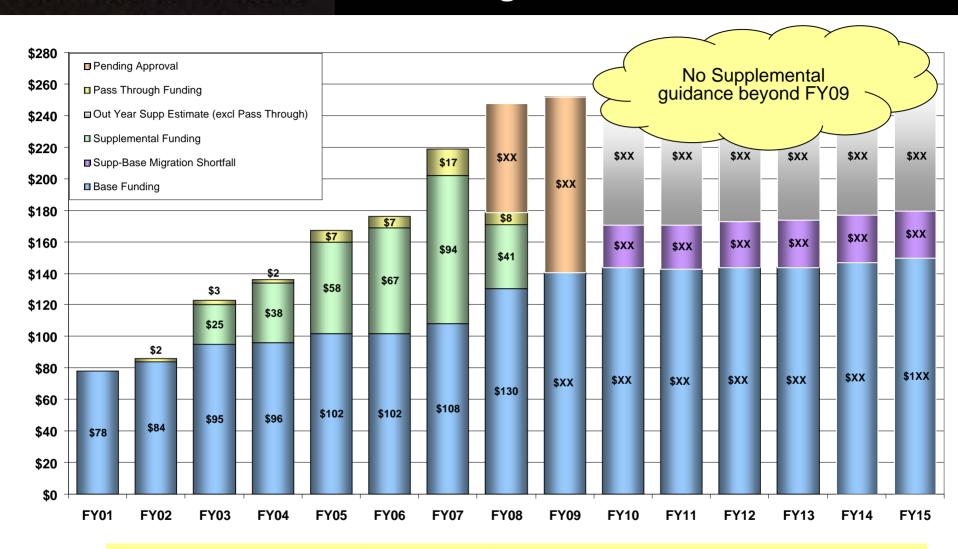
## Resourcing the Army at War

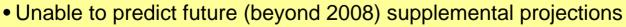
- Moving Towards Fiscal Balance
- Army Imperatives

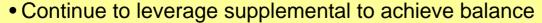
"America's ground forces have borne the brunt of underfunding in the past and the bulk of the costs – both human and materiel – of the wars of the present. By one count, investment in Army equipment and other essentials was underfunded by more than \$50 billion before we invaded Iraq. By another estimate, the Army's share of total Defense investments between 1990 and 2005 was about 15 percent. So resources are needed not only to recoup from the losses of war, but to make up for the shortfalls of the past and to invest in the capabilities of the future."

Secretary of Defense Dr. Robert M. Gates (10 Oct 07)

### **Moving Towards Fiscal Balance**









# **Army Initiatives**

- Accelerate growth and readiness ... And sustain a campaign quality, expeditionary Army
- 2. Enhance quality of support to Soldiers and families to preserve strength of the All-volunteer Force
- 3. Maintain continuity and momentum in modernization to improve capability of current and future force
- 4. Complete transition of the Reserve Component to an operational reserve
- Accelerate change in leader development programs to grow leaders for 21st century
- 6. Adapt institutional policies, programs and procedures to support our expeditionary Army at war
- 7. Build strategic communication capabilities to effectively communicate with internal and external audiences



# The Four Elements of the Army Modernization Strategy

- Rapidly field the best new equipment to the current force.
- Upgrade and modernize existing systems to ensure all Soldiers have the equipment they need, including:
  - o Soldier as a System
  - o Armored Systems
  - o Tactical Wheeled Vehicles
  - o Aviation
  - o Patriot
  - o The Network
- Incorporate new technologies derived from Future Combat Systems research and development.
- Field the Future Combat Systems (FCS) Brigade Combat Teams.





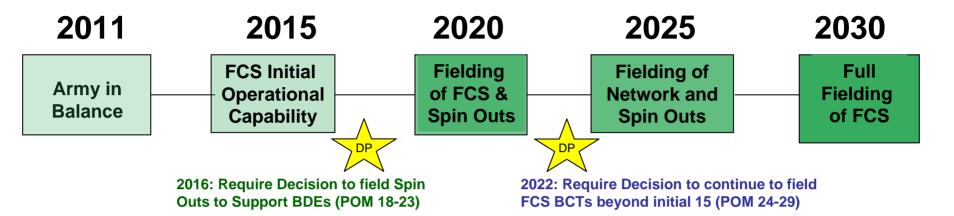




System (MSC)



## **Modernization Timeline**



- Fully Implement ARFORGEN
- Rapid equipping institutionalized across force
- Upgrades to existing systems fielded
- Begin FCS Spin Out 1 to BCTs in 2010
- Pure fleet Patriot
- Joint Cargo Aircraft first unit equipped in 2010
- Armed Recon Helo first unit equipped in 2011

- 1st FBCT IOC
- 1<sup>st</sup> FBCT FOC in 2017
- 2 Abrams and Bradley variants 2013
- BCTs to MTOE by 2015

- 5 FBCTs fielded by 2020
- 52 Modular BCTs with Spin Outs by 2020
- Kiowa Warrior retired in 2019
- CS/CSS to MTOE by 2019

- Full FCS Battle Command (network) by 2025
- Complete fielding
   Spin Outs to 61
   Modular BCTs by 2025
- 15 FBCTs Fielded by 2030

# **Army Transformation**

- Transformation is a holistic effort to adapt how we fight, train, modernize, develop leaders, station and support our Soldiers, Families and Civilians, to sustain full spectrum dominance in an era of persistent conflict.
- Modernization provides the materiel solutions.
- Future Combat Systems (FCS) is the core of Army Modernization.
- The Soldier is the Centerpiece.

Network

**Precision Effects** 

Modern Platform

Greatly Enhanced

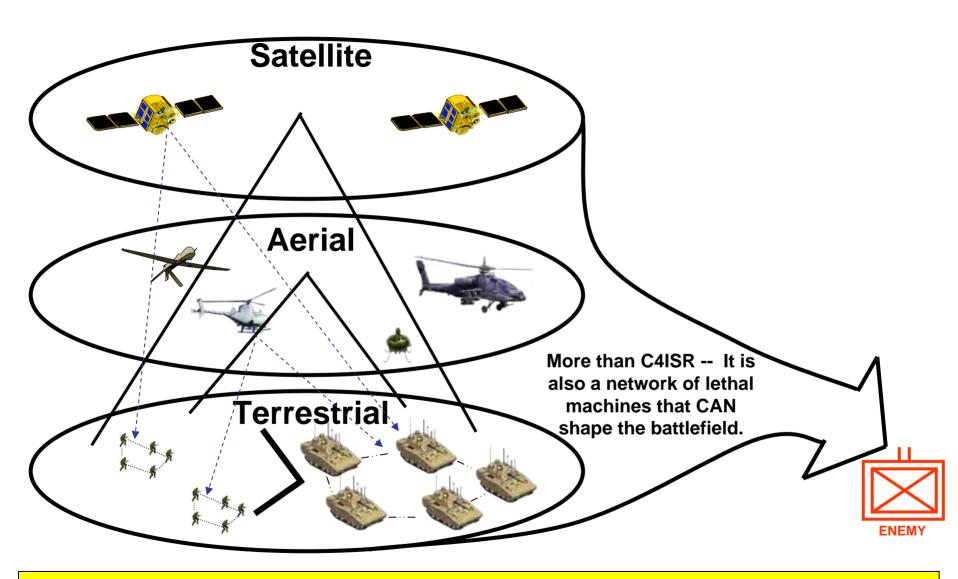
Capability in

Precision Operations



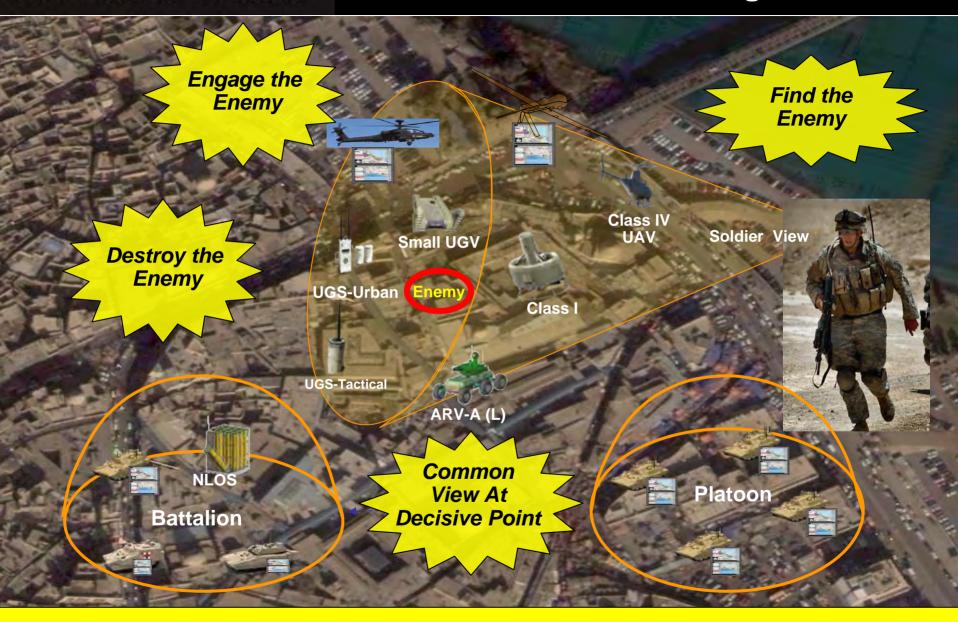
**Sustained and Dominant Full Spectrum Landpower** 

# Vision for Future Networked Land Forces in Joint Operations



Redundant, Scalable, and Tailorable On-the-Move networks enable Situational Understanding to Focus Effects with Precision

### **Precision Effects Enabling the Soldier**

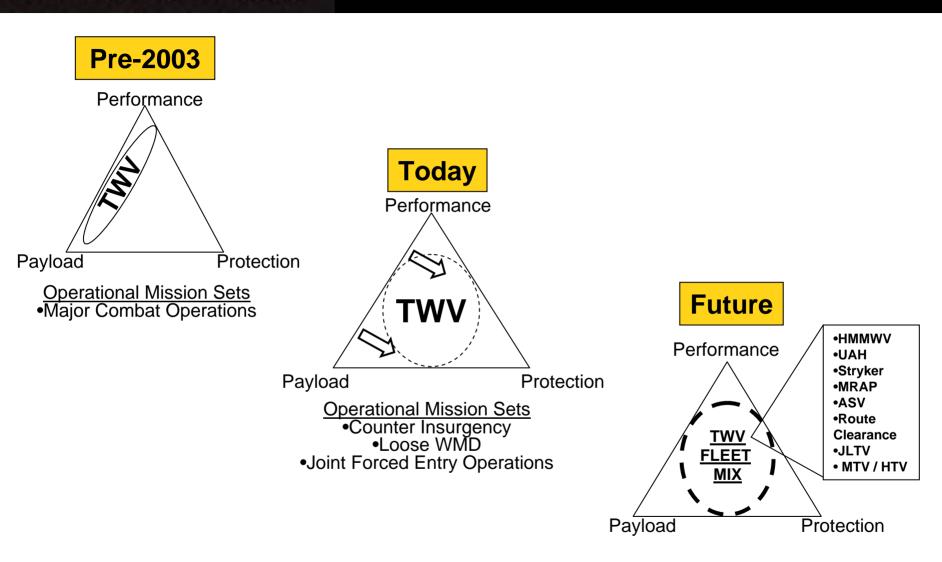


"provide our Soldiers with a decisive advantage through improved situational awareness"

### **Current vs Future Combat Teams**

|                                                  | Heavy Modular BCT                            | FCS BCT                                                     |  |  |
|--------------------------------------------------|----------------------------------------------|-------------------------------------------------------------|--|--|
| Capability Improvements                          |                                              |                                                             |  |  |
| Self Sustaining (Hi OPTEMPO)                     | 24 hours                                     | 72 Hours                                                    |  |  |
| Wartime Vehicle Availability                     | < 90%                                        | > 95%                                                       |  |  |
| Infantrymen in Squads                            | 324<br>(8% of HBCT)                          | 702<br>(22% of FCS BCT)                                     |  |  |
| Support Soldiers                                 | 1,186<br>(31% of HBCT)                       | 411<br>(13% of FCS BCT)                                     |  |  |
| Average maintenance man hours per operating hour | 1 to 2                                       | 1 to 20                                                     |  |  |
| Revolutionary Improvements                       |                                              |                                                             |  |  |
| Maintenance tasks performed by crew chief        | 10%                                          | 80%                                                         |  |  |
| Platform Health Status                           | Only vehicle crew understands                | Visible to entire Brigade<br>through networked<br>logistics |  |  |
| Power                                            | Motors and generators (Power Consumer)       | Hybrid Electric<br>(Power Generator)                        |  |  |
| Training                                         | Stand alone Simulators (in select locations) | Embedded Training<br>(Anywhere)                             |  |  |

## **TWV Fleet Capabilities**





- Capable of Full Spectrum Operations
  - •Mixed fleet approach that spans the "Iron Triangle"
  - Scalable protection

### TWV Strategy

- The Army has a flexible base strategy
- In light of the increasing complexity of the current environment and the multitude of missions the Army must perform, the strategy will:
  - Take maximum advantage of existing platforms
  - Integrate MRAP into the fleet mix
  - Emphasize a mixed fleet approach that spans the "Iron Triangle" of Protection, Performance, and Payload
  - Move the Army to a fleet of TWVs that have scalable protection (integrated A-kit cabs and add-on armor B-kits)



## **TWV Strategy Guiding Principles**

- 1. Comprehensive Soldier Protection
  - All TWV will have scalable protection so commanders can balance risk against mission requirements
  - The Army will continue to develop "left of the bang" solutions that span all DOTML-PF domains
- 2. Fielding as a system
  - Deliver vehicles with enablers (example: radios, crew served weapons, jammers and situational awareness)
- $3.\,$  Balance fiscal and technological risk
  - Achieve right technology to provide right capability at the right capacity
- 4. Streamline number of variants
  - Reduce logistical footprint



### **TWV Strategy Facts**

- The Army will continue to have a requirement for light tactical vehicles
  - Rotary wing transportable
  - Highly mobile
  - Capable of Full Spectrum Operations
- One vehicle will not meet all requirements
- We will continue to face asymmetric threats: MRAP will have a role in future conflicts
- The HMMWV will have a useful role in the Army inventory for the foreseeable future



### **Way Ahead**

- Work with Congress to increase programming flexibility
- Work with OSD and Congress to properly resource both the present and future capabilities
- Work with Sister Services to identify joint solutions
- Work with industry to find and deliver solutions faster

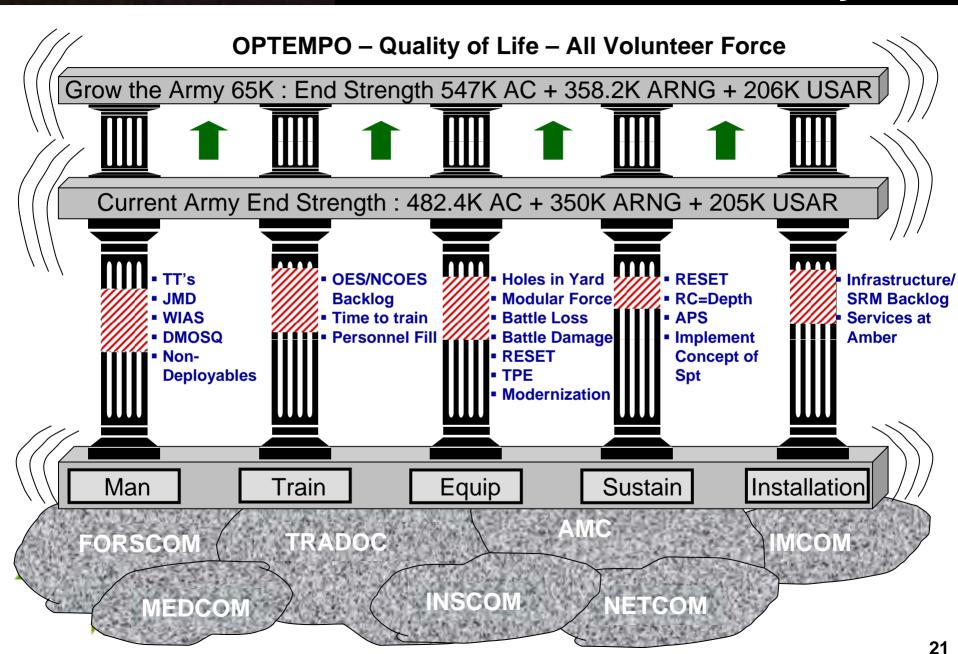




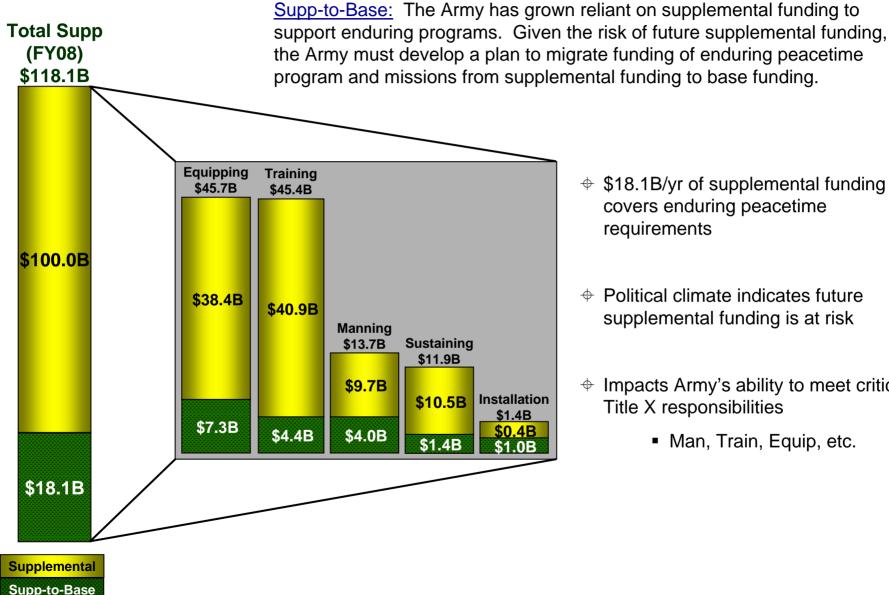
# BACKUP SLIDES



# Foundation of the Army

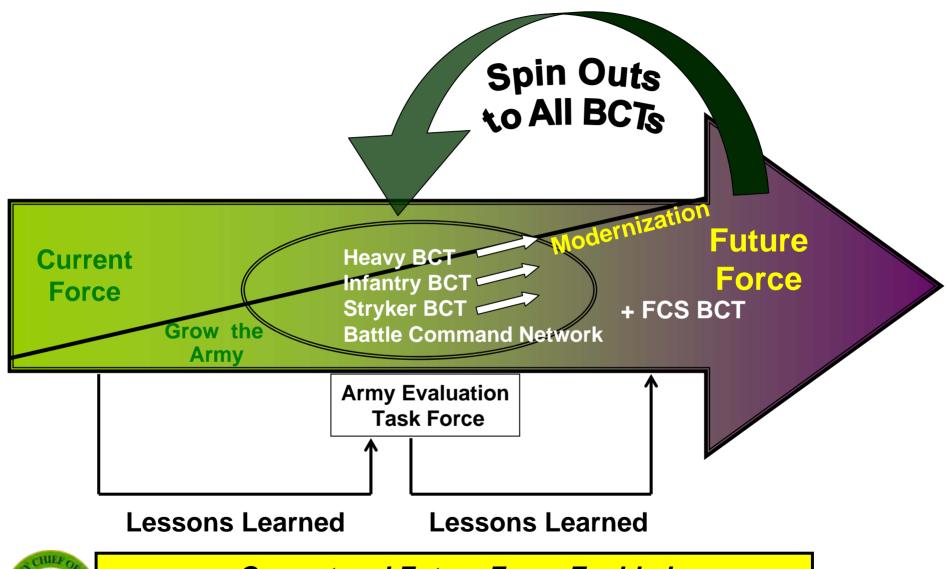


# **Supp-to-Base Migration**



- \$18.1B/vr of supplemental funding covers enduring peacetime requirements
- Political climate indicates future supplemental funding is at risk
- Impacts Army's ability to meet critical Title X responsibilities
  - Man, Train, Equip, etc.

# Here's Where We are Going





Current and Future Force Enabled

# **Spin Out 1 Capabilities**

Abrams, Bradley, **HMMWV** Integration kits











Radio









**UGS-Urban** 



- Joint Software Programmable Radio With Multiple Waveforms To Share More Information
- Connection To Unattended Sensors
- Connection To Joint Network
- FCS Network Kits (Abrams, Bradley And HMMWV) Brigade, Battalion, And Company Command Vehicles

#### Unattended Ground Sensors – Tactical / Urban

- Provides Small Units Remote, Rapid Alert About People Or Vehicles 24-7
- Detects People And Heavy Track/Wheel Vehicles
- Monitor Greater Area With Fewer People; Early Warning at Platoon Level
- Increase Force Protection
- Persistent Surveillance Using Air Platform / Sensors (Less "Dead Space")

#### Unmanned Air Vehicle - Class I

- Protects / Enables Soldiers On High Risk Missions In Complex Terrain
- Remote Recon and Detection of Booby-traps, Landmines And Explosive Threats
- Persistent Surveillance Using Layered Sensors (Less "Dead Space")
- Provide Soldier Stand-off For Surveillance, Reconnaissance, And Lethal Engagements
- Communications Relay Extends Ranges To Facilitate Combat Operations Over More Complex Terrain

#### Non-Line Of Site Launch System (NLOS-LS) With Precision Attack Munitions

- Precise Fires On Moving And Stationary Targets Out To 40kms
- Greatly Reduced Manning For Firing Elements
- Forced Entry And SOF Fires Without Cannons (Can Air Drop)





With PAM

# Spin Out 2 Capabilities

#### **Stryker Integration kit**



## Active Protection System



#### **Mast Mounted Sensor**



## More Battle Command



#### **Active Protection System**

- 360 Degree Hemispherical "Bubble" Protection
  - Unitary Or Tandem RPG Attacks
  - Missiles (Anti-tank Guided; Objective: Kinetic Energy, Chemical Energy)
  - Mortars Rounds
  - Large Caliber Cannon Rounds
  - Tank Rounds (High Explosive, High Explosive Anti-tank: Objective: Kinetic Energy)
  - Top Attack / Precision Munitions
- Increases Mounted Soldier Protection

#### **Mast Mounted Sensor**

- Extendable Mast System Allows Vehicle To Remain "Behind" The Hill
- Range Far Beyond 3,000 meters (classified)
- Images From Thermal Camera And Day Camera
- Image Intensification Sight (Clearer Picture At Night)
- Laser Designator For Targeting
- Increases Mounted Soldier Protection
- Increase Lethality

#### More Battle Command

• APS Sensor Shooter Link

# **Spin Out 3 Capabilities**

(Includes Spin Out 1)

#### Abrams, Bradley, **HMMWV** Integration kits

Full Battle Command

Network









Integrated

Computer **Systems** Type 1 & 2

**Displays** 

Common

Controller

#### Full Battle Command

- Battle Command On The Move Inside Joint Network
- Network Management, Data Fusion, And Decision Aides For Leaders And Soldiers
- Combat Identification To Prevent Fratricide
- Target Identification And Discrimination To Reduce Collateral Damage
- Detect, Track, Engage Fleeting Targets; Links More Sensors And Shooters
- Greater Survivability, Lethality, And Maneuver Ability
- Cooperative Engagements Among Platforms (Manned and Unmanned)

Class I **UAV** 





- Protects / Enables Soldiers On High Risk Missions In Complex Terrain
  - Sensing, Breaching, Clearing Buildings And Tunnels
  - Remote Recon And Detection And Neutralization Of Booby-traps, Landmines And **Explosive Threats**
  - Remote Mine And CBRN Detection
- Persistent Surveillance Using Layered Sensors (Less "Dead Space")
- Detect, Track, Designate, And Engage Fleeting Targets
- Provide Soldier Stand-off For Countermine, Surveillance, Reconnaissance, And Lethal **Engagements**
- Communications Relay Extends Ranges To Facilitate Combat Operations Over More **Complex Terrain**
- Transports Part Of Soldiers' Loads



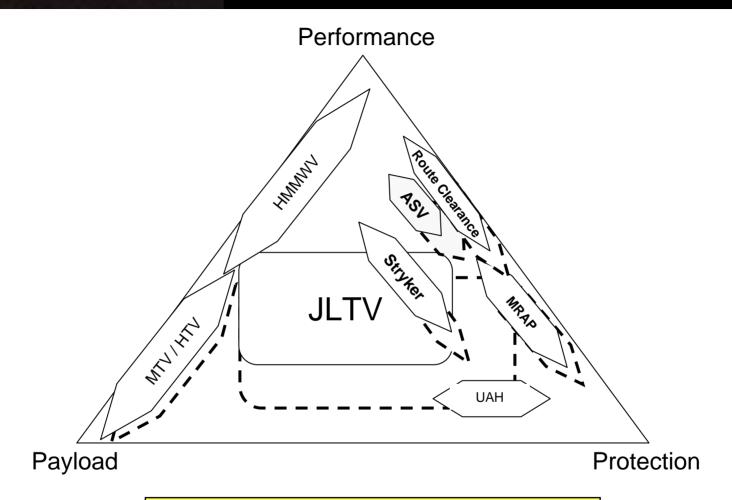


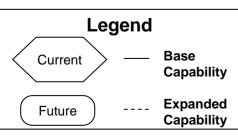






## **Balancing Tomorrow's Fleet**





- Mixed fleet approach that spans the "Iron Triangle"
- Scalable protection

Note: Dotted lines are not scaled to actual future capabilities

# The National Defense Industrial Association wishes to acknowledge the following Super Bowl Party Sponsors:

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#### Freightliner LLC

#### **Lockheed Martin JLTV Team**

**Mack Trucks** 

**Nevada Automotive Test Center** (**Hodges Transportation, Inc.**)

**Oshkosh Truck Corporation** 

Thank-you for your generous support!

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**Force Protection Industries, Inc.** 

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#### **General Kinetics Engineering Corporation**

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**Productive Resources** 

**SCS/Frigette** 

**Telephonics Corporation** 

**VT Miltope** 

Whitney, Bradley & Brown, Inc. (Hampton, Virginia Office)

Thank-you for your generous support!

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# The 21st Century Army Reserve





# LTG Jack Stultz Chief, Army Reserve

**NDIA Tactical Wheeled Vehicle Conference 2008** 



### **AR Support to Global Operations**





Since 9/11, more than 183,000 Army Reserve Soldiers have mobilized in support of global operations.

More than 7,000 are serving our Nation here at home today.



# Integral to the Army



**Reserve Component** 

Army Reserve Federal force 205,000 Soldiers Army National Guard State-based force 350,000 Soldiers

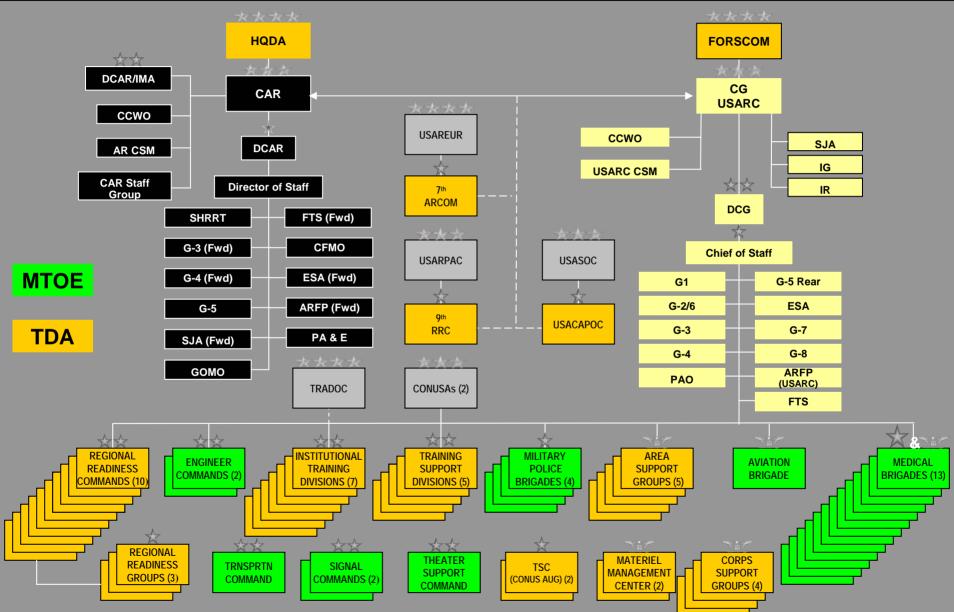
# The Army Reserve is the Federal Operational Reserve

- More than 22,400 Army Reserve Soldiers Mobilized
- More than **183,000** mobilized since 9/11
- 153 have made the ultimate sacrifice
- 12,930 have been mobilized for 1-2 years
- 12,464 have been mobilized for 2-3 years
- **16,114** have been mobilized for > 3 years



# Army Reserve in the Past

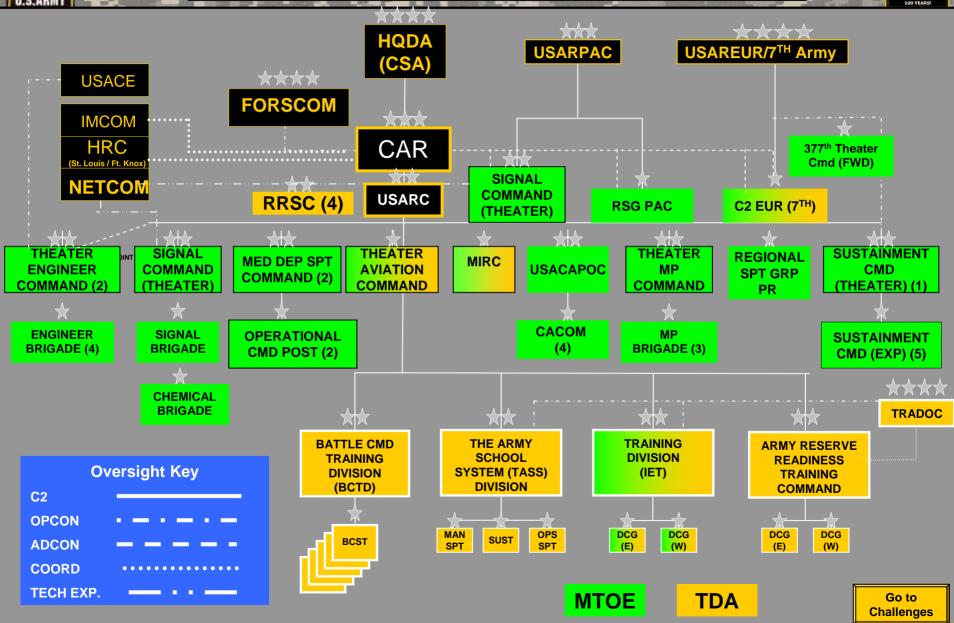






# Army Reserve Transformed







# **Growing Structure**



# QDR/TAA Warfight

5.2K Transportation
3.3K Quartermaster
2.9K Maintenance
2.5K Engineer
1.8K Logistics HQs
0.5K Chemical
0.3K Military Police
0.1K Signal
0.2K PSS

Current Operational Demand Potential HLD/HLS Missions

TWVs to support new structure

**Quantity** = 5,821

Cost = \$335,465,337

~\$301M OPTEMPO

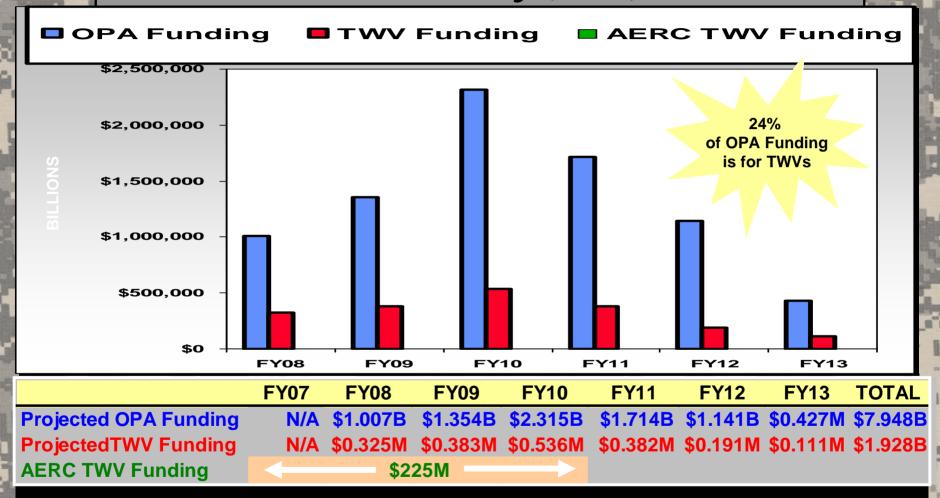
\$3.9B Equipment Costs

~\$800M Construction



# New Procurement Funding Projections Other Procurement, Army (OPA) for FY 08-13





\*Army Equipping & Re-Use Conference (AERC): Equipment Distributions are for Deploying and Next Deploy Forces over 2 year increments and ensure our Soldiers receive the most modern equipment available.



# Army Reserve Challenge: TWV Modernization Requirements



| EQUIPMENT ITEM   | TOTAL<br>REQ | ON HAND | SHORT |
|--|--------------|---------|-------|
| LMTV (2.5 TON TRUCK)   |              | 1086    | 5281  |
| MTV (5-TON TRUCK)  | 9460         | 319     | 9141  |
| TRUCK TRACTOR LINE HAUL (M915A3)   | 2608         | 481     | 2127  |
| TRUCK TRACTOR LIGHT EQUIPMENT TRANSPORT (M916A3)                               | 894          | 0       | 894   |
| ARMORED SECURITY VEHICLE: WHEELED W/MOUNT (ASV)                                | 256          | 0       | 256   |
| TRAILER CARGO: FMTV W/DROPSIDES M1095/M1082                                    |              | 249     | 3540  |
| LIGHT TACTICAL TRAILER: 3/4 TON  | 5454         | 2978    | 2476  |
| PLS TRAILERS   | 1264         | 687     | 577   |
| TRUCK CARGO PLS 10x10 M1075  |              | 622     | 283   |
| TRUCK DUMP 20 TON (M917)   |              | 307     | 90    |
| HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV)                            |              | 9123    | 6565  |
| HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV) UP-<br>ARMORED M1114       |              | 7       | 1554  |
| SEMI-TRAILER TANK 5000K GAL FUEL DISPENSING AUTOMOTIVE<br>REFUELER (M969A2/A3) |              | 9       | 602   |
| SEMI-TRAILER TANK 5000K GAL FUEL BULK HAUL (M967A2)                            | 1500         | 299     | 1201  |
| SEMI-TRAILER LOW BED: 40 TON 6 WHEEL W/E                                       |              | 521     | 422   |
|  |              |         |       |

The Army Reserve Requires Approximately \$5B in TWV Modernization



# Employer Partnership



# **Employer Pilot Programs**

- American Trucking Associations
- Con-Way Trucking
- Inova Health Care
- Tyson's
- Unisys













# Questions?



IT'S ALL ABOUT THE WARFIGHTER



# **PEO Land Systems Marine Corps**

It's all about the Warfighter!

NDIA Tactical-Wheeled Vehicle Conference
Monterey, CA
4 Feb 08

IT'S ALL ABOUT THE WARFIGHTER



# What is a PEO?

#### **DOD INST 5000.2**

"...Component Acquisition Executives (CAE) shall assign acquisition program responsibilities to a PEO for ACAT I programs...or any other *program determined by the CAE to require dedicated executive management*"

"The PEO shall be dedicated to executive management and shall not have other command or staff responsibilities"

#### **SECNAV INST 5400.15B**

"PEOs will report directly to the Naval Acquisition Executive for all matters pertaining to acquisition"

"PEOs devote full-time attention to managing their assigned programs and related technical support resources"

General Rule: PEOs exercise authority for management of all ACAT Is & IIs.



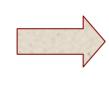


# Why PEO LS?

21 Aug 06
MROC decision Memo 47-2006
"The MROC supports the establishment of a Marine Corps PEO using the matrixed organizational concept."



5 Feb 07
PEO LS Charter
Established
by
ASN(RDA)



1 Oct 07
PEO LS declared
Fully Operational
Capable (FOC)
by ASN (RDA)

Established to enhance acquisition oversight and focus on an expanding Marine Corps portfolio of ACAT I & II ground and amphibious weapons systems.

IT'S ALL ABOUT THE WARFIGHTER



# Relationship to MARCORSYSCOM

- PEO LS is a separate command reporting to ASN (RDA) but.....
- Collocated with Marine Corps Systems Command

Similar to alignment between other DON PEOs and SYSCOMs Leverages MCSC infrastructure & services Operating Agreement approved 4 Apr 2007

Major SYSCOM Roles (SECNAV INST 5400.15B)

Provide support services to PEOs without duplicating management responsibilities Provide for In-Service Support

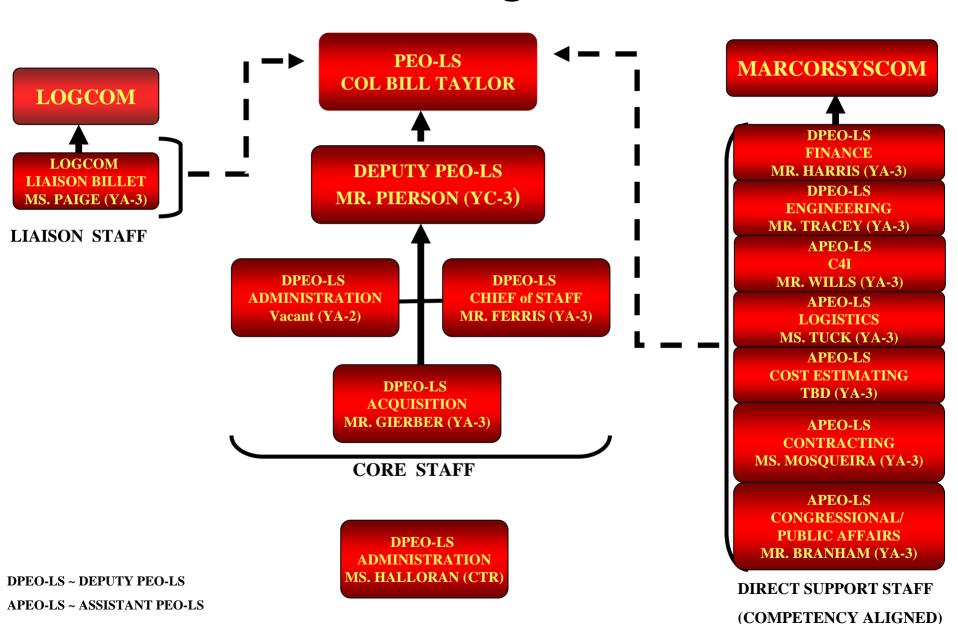
Manage / MDA for programs other than those assigned to PEO structure

Major Support Services (SECNAV INST 5400.15B)

Oversee standard policies, technical processes and core competencies:

Systems Engineering
Integrated Logistics Support
Contracting
Finance / Comptroller

# **PEO LS Organization**



# **PEO LS Program Portfolio**

**Expeditionary Fighting** Vehicle (EFV)



Logistics Vehicle System Replacement (LVSR)



Medium Tactical Vehicle Replacement (MTVR)





Lightweight 155 (M777)



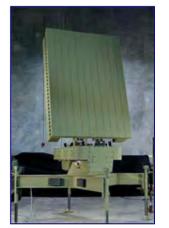
Marine Personnel Carrier (MPC)

Ground Air Task Oriented Radar G/ATOR





Common Aviation Command & Control System (CAC2S)



IT'S ALL ABOUT THE WARFIGHTER



# PEO LS Tactical-Wheeled Vehicle Programs









IT'S ALL ABOUT THE WARFIGHTER



# Medium Tactical Vehicle Replacement (MTVR)

#### **System Description**

The MTVR (manufactured by Oshkosh Truck Corporation) replaces the aging M809/M939 series 5-ton trucks with state-of-the-art commercial automotive technology. The MTVR cargo truck has a 7.1-ton off road and 15-ton on road payload, and a 22-year service life. The MTVR Variant program developed the dump and wrecker models on the MTVR platform, maintaining maximum commonality with the basic MTVR cargo

chassis while performing their unique mission. The Program Manager is Mr. Thomas Miller and the program office is located at Quantico, Va.

#### **Program Status**

The MTVR Program is transitioning from ACAT II to ACAT IC due to Full-Rate Production and MAS.







# Logistics Vehicle System Replacement (LVSR)

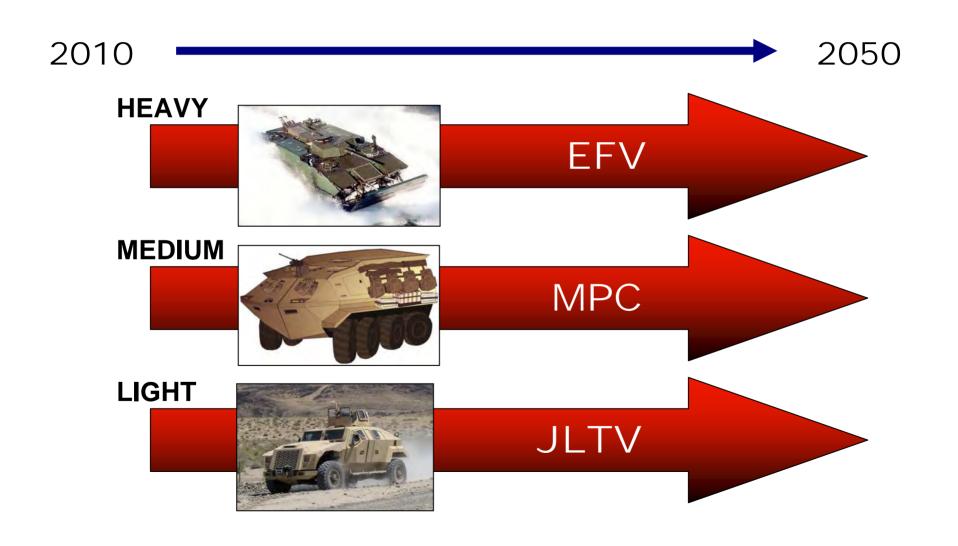
#### **System Description**

LVSR is the Marine Corps' heavy fleet vehicle system for transporting heavy bulk and break bulk cargo, bulk liquids (fuel and water), and ammunition. The Program Manager is Mr. Thomas Miller and the program office is located at Quantico, Va.

#### **Program Status**

Entering IOT&E. FRP FY 09.

# Future Triad of Marine Corps Tactical Mobility



IT'S ALL ABOUT THE WARFIGHTER



### Joint Light Tactical Vehicle (JLTV)

#### **System Description**

JLTV is a Joint Army/Marine Corps program (ACAT 1D), which consists of a family of vehicles with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations (ROMO). The U.S. Army is the lead service with a Joint Program Office at TACOM (Warren, Mich.) under the leadership of Brig Gen John Bartley (Program Executive Office for Combat Support / Combat Service Support) with a dual Marine Corps

Program Manager (Lt Col Ben Garza) under the leadership of the Program Executive Officer Land Systems Marine Corps, Quantico, Va.

#### **Program Status**

Milestone A approved 22 Dec 2007.



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# Joint Light Tactical Vehicle (JLTV) Way Ahead

- Industry is ready for JLTV as evidenced by Teaming announcements.
- RFP is imminent. Will launch Technology Demonstration Phase (TDP) for next 24 months.

 JLTV Challenges: Survivability, Transportability (Weight), C4I Integration and growth, power/electrical and Thermal Management/Air Conditioning.

IT'S ALL ABOUT THE WARFIGHTER



# Marine Personnel Carrier (MPC)

#### **System Description**

The MPC represents the *medium weight capability in the set of the triad of armored personnel carrier* (APC) capabilities for the Marine Corps to improve ground tactical mobility. It is *not a replacement vehicle* and instead will complement the capabilities offered by the JLTV and the EFV across the Range of Military Operations (ROMO). The Program Manager is Colonel Mike Micucci and the program office is located in Detroit, MI.

#### **Program Status**

ACAT II Program. Entering Technology Demonstration Phase (Pre- Milestone A).

**Not a replacement Capability** 







# Marine Personnel Carrier (MPC) Way Ahead

- The MPC program is currently in preparation for a Milestone A (MS A) in April 2008.
- MPC conducting Systems Demonstration at NATC, NV through Feb 08.
- Initial Capabilities Document (ICD) approved. CDD is under construction and will enter staffing in 2nd Qtr, FY08.
- MPC RFP expected by mid-FY08 Expect Full and Open Competition

# Vehicle Portfolio Construct

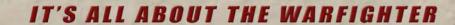
| ≤ 10,000 lbs              |  | ≤ 25,000 lbs |  | ≤ 50,000 lbs |     | > 50,000 lbs         | <b>Gross Vehicle Weight</b> |                   |  |
|---------------------------|--|--------------|--|--------------|-----|----------------------|-----------------------------|-------------------|--|
| MV-22                     |  | CH-53        |  | C-130J       |     | C-17                 | Transportability            |                   |  |
| Ultra-Light               |  | Light        |  | Medium       |     | Heavy                |                             |                   |  |
| IFAV                      |  | HMMWV        |  | LAV          |     | AAV                  | Current                     |                   |  |
| ITV                       |  | JLTV/ECV     |  | MPC          |     | EFV                  | Future                      |                   |  |
|                           |  | M1114        |  | MRAP I / II  |     | MRAP III             | OIF/OEF                     |                   |  |
| Motorcycle                |  |              |  | HIMARS       |     | M1A1                 |                             | •                 |  |
| EFSS                      |  |              |  | Refueler     |     | LVS/R                |                             |                   |  |
|                           |  |              |  | •            |     | MTVR                 |                             |                   |  |
| - as -                    |  |              |  |              | ABV |                      | LAV, M1A1                   |                   |  |
| Maneuver HMMWV, EFV, AAV, |  |              |  |              |     |                      |                             |                   |  |
|                           |  |              |  | AVLB         |     | MPC, MRAP, JLTV, ITV |                             |                   |  |
| Fires EFSS, HIMARS        |  |              |  |              |     |                      |                             | es 💮              |  |
|                           |  |              |  |              |     |                      |                             |                   |  |
| Logistics                 |  |              |  |              |     |                      |                             | HMMWV, MTVR, LVS, |  |
| Logistico                 |  |              |  |              |     |                      | LVSR, Refueler, JLTV        |                   |  |
| Engineer ABV, MRAPIII     |  |              |  |              |     |                      |                             | VLB               |  |
|                           |  |              |  |              |     |                      |                             |                   |  |





# PEO LS FY08 Goals For Partnering With Industry

- •Visit every off-site Program Prime
  - Sep 07 visit to Oshkosh Trucking Corporation
  - •Nov 07 visit to Northrop Grumman Electronic Systems
- •APBI 13-14 May 2008, Baltimore, MD





# Focus on Technology

- Lightweight armor
- Reduced C2 footprints
- Heads up displays
- Hybrid Technology
- Integrated power generation
- Crew noise reduction

IT'S ALL ABOUT THE WARFIGHTER



# USMC LAND SYSTEMS SUSTAINMENT TECHNOLOGY WORKSHOP

FEBRUARY 26 – 27, 2008

The Clubs at Quantico
Marine Corps Base Quantico, VA

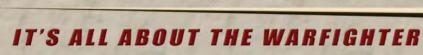
https://www.ncms.org/SSL/08CTMA-Quantico/08registration.htm





# **Our Mission**

"Program Executive Officer Land Systems (PEO LS)
will meet the Warfighter's needs by devoting full-time
attention to Marine Corps Weapon Systems acquisition,
while partnering with Marine Corps Systems Command,
in order to develop, deliver, and provide life-cycle
planning for assigned programs."





# Questions?

IT'S ALL ABOUT THE WARFIGHTER



# **Primary Points of Contact**

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